



**TEREX**  
**LIGHT CONSTRUCTION**

# **SERIES LT7000**

## **LIGHT TOWER**

### **OPERATION/SERVICE & PARTS MANUAL**

**amida**  
**COLEMAN**  
Engineering

*Bartell*  
**morrison™**

*Benford*  
**MULLER**

PO Box 3147 • Rock Hill, SC 29732 USA Phone 803-324-3011

Toll Free 800-433-3026

Parts Department Fax 800-633-5534

THIS MANUAL HAS BEEN SPECIFICALLY PREPARED FOR THE FOLLOWING  
LIGHT TOWER

TLC Model Number \_\_\_\_\_ Serial Number \_\_\_\_\_

Engine Model Number \_\_\_\_\_ Serial Number \_\_\_\_\_

Generator Model Number \_\_\_\_\_ Serial Number \_\_\_\_\_

Sold To \_\_\_\_\_ Ship To \_\_\_\_\_

\_\_\_\_\_

Options: \_\_\_\_\_ Production Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

\_\_\_\_\_ Work Order Number: \_\_\_\_\_

\_\_\_\_\_ Shipping Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

\_\_\_\_\_ In Service Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

\_\_\_\_\_

When this unit left the factory the engine was filled with engine oil of grade: \_\_\_\_\_

This Operation & Service Manual contains information specifically pertaining to the operating and maintenance of this TEREX Light Construction Tower. We suggest that you read this manual carefully prior to operating the Light Tower. This manual should be retained and referred to for operation, maintenance, and ordering parts. When ordering parts, PLEASE INCLUDE THE MODEL AND SERIAL NUMBER located on the nameplate of the Light Tower.

For major repair and service or other information, contact your TEREX Light Construction dealer or call or write:

TEREX Light Construction  
P.O. Box 3147 (29732)  
590 Huey Road  
Rock Hill, SC 29730  
Telephone: (803) 324-3011  
FAX: (803) 366-1101

When returning parts for credit, please contact the factory for Return of Goods Authorization.

# TABLE OF CONTENTS



WARNING!!! READ OPERATING, TROUBLESHOOTING, AND

CAUTION!!!! MAINTENANCE INSTRUCTIONS CAREFULLY BEFORE  
OPERATING THIS PIECE OF EQUIPMENT.

## OPERATING INSTRUCTIONS AND MAINTENANCE

Safety Precautions	Page 5-6
Initial Set Up	Page 7
Model Coding System	Page 8
Operating Instructions	Page 9-13
Oil & Fuel Specifications	Page 14-15
Engine (See manufacturer 's handbook)	
Generator (See manufacturer 's handbook)	

## PARTS DRAWINGS AND LISTS

9055	Axle w/wheels	Page 17
9109B	Air Chamber - For unit with Lister Engine	Page 18-19
9366	Air Chamber - For unit with LPA3	Page 20-21
9062A	Crossarm w/wiring 4 lights	Page 22-23
9063A	Crossarm w/wiring 6 lights	Page 24-25
9065C	Engine & Generator - Lister TS2 - Leroy Somer 8 KW	Page 26-27
9365	Engine & Generator - Lister LAP3 - Leroy Somer 7.5 KW	Page 28
N/A	Engine & Generator - Kubota 1105- Leroy Somer 8 KW	Page 29
9069	Trailer Frame and Parts	Page 30-31
9070B	Generator Enclosure	Page 32-33
9071	Tower and Base Assembly	Page 34-35
9072	Pivot Cylinder	Page 36-37
9073	Telescoping Cylinder	Page 38-39
9074A	Hydraulic Piping	Page 40-41
9123A	Electrical	Page 42-43
9075	CDC Control Box - For unit with Lister Engine	Page 44-45
9076	CDC Control Box - For unit with Kubota or Lister	Page 46-47
9528	CDC Control Box - For unit with Lister/Alpha	Page 48-49
9089	Hitches for trailers	Page 50
N/A	Ballast	Page 51
	Fixture Assembly	Page 52

## ELECTRICAL DRAWINGS

2985A	Fixture Schematic	Page 52
2986	Metal Halide Ballast W iring Diagram	Page 54
2987	High Pressure Sodium Ballast W iring Diagram	Page 55
2891	Lister TS-2 Engine W iring	Page 56
4730E	Kubota Engine W iring	Page 57
2641	Engine W iring Diagrams for Lister TS2 with CDC Panel	Page 58
2582	CDC Control Box W iring Diagram 4 MH for Kubota or Lister	Page 59
3612	Control Box W iring Diagram with Kubota or Lister engine	Page 60
3883	Alpha Engine	Page 61
2640B	Lister Engine W iring Diagram with CDC Panel	Page 62

## TROUBLESHOOTINGAND MAINTENANCE

Tower Seal Replacement	Page 63-65
Generator (Refer to manufacturer 's handbook)	
Engine (Refer to manufacturer 's handbook)	
Hydraulic Tower	Page 66-67
Electrical	Page 68-71
Traceable W iring	Page 72
Generator Bearing Inspection	Page 73

## WARRANTY

Procedure	Page 74
Terex Policy	Page 75
Engine Manufacturer 's Policy (Refer to manufacturer 's handbook)	
Generator Manufacturer 's Policy (Refer to manufacturer 's handbook)	
Cards (Must be filled out and returned to validate warranty).	

## SAFETY PRECAUTIONS

The following symbols in this manual signal potentially dangerous conditions to the operator or equipment. Read This Manual Carefully. Know when these conditions exist. Then take necessary steps to protect personnel, as well as equipment.

" WARNING" This Symbol Refers To Possible Serious Personal Injury.

CAUTION This Symbol Refers to Possible Equipment Damage.

Lamps, Electrical Equipment, Fuel, Batteries, Exhaust Gases and moving parts present potential hazards that could result in serious personal injury. Take care in following these recommended procedures.

#### USE CAUTION WORKING NEAR LAMPS

Metal halide lamps produce short wave ultra-violet radiation and can cause serious skin burn and eye inflammation if the outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used.

#### GUARD AGAINST ELECTRIC SHOCK

Disconnect or shutdown electric power before removing protective covers or touching electrical equipment. Use rubber insulating mats placed on dry wood platforms over floors that are metal or concrete when around electrical equipment. Do not wear damp clothing (Particularly wet shoes) or allow skin surfaces to be damp when handling electrical equipment.

#### USE EXTREME CAUTION NEAR GASOLINE AND DIESEL FUEL. A CONSTANT POTENTIAL EXPLOSIVE OR FIRE HAZARD EXIST.

Do not fill fuel tank with engine running. Do not smoke or use open flame near the unit or the fuel tank. Be sure all fuel supplies have a positive shut off. Have a fire extinguisher nearby. Be sure extinguisher is properly maintained and be familiar with its proper

#### DO NOT SMOKE WHILE SERVICING BATTERIES

Lead acid batteries emit a highly explosive hydrogen gas that can be ignited by electrical arcing or by smoking.

#### EXHAUST GASES ARE TOXIC

Provide an adequate exhaust system to properly expel discharged gases. Check

exhaust system regularly for leaks. Ensure that exhaust manifolds are secure and not warped. Be sure the unit is well ventilated.

#### KEEP THE UNIT AND SURROUNDING AREA CLEAN

Remove all unnecessary grease and oil from unit. Accumulated grease and oil can cause overheating and subsequent engine damage and may present a potential fire hazard. Dispose of oily rags. Keep the floor of the unit clean and dry.

#### PROTECT AGAINST MOVING PARTS

Avoid moving parts of the unit. Loose jackets, shirts, or sleeves should not be permitted because of the danger of becoming caught in moving parts. Make sure all nuts and bolts are secure. Keep power shields and guards in position. If adjustments must be made while equipment is running, use extreme caution around hot manifolds, moving parts, etc. Do not work on this equipment when mentally or physically fatigued.

TEREX LIGHT CONSTRUCTION

CHECKOUT ON RECEIPT OF DELIVERY:

The tower will be serviced, tested and ready for operation when received except for export units which are knocked down and shipped with dry batteries. Terex recommends the following checks:

- A. ENSURE THERE IS NO FREIGHT HANDLING DAMAGE which should be charged against the carrier.
- B. Ensure the manuals are in the pocket provided inside the unit.
- C. Review the manuals for safety and operating procedures.
- D. Check the engine oil, coolant (if liquid cooled) and fuel levels.
- E. Operate tower in accordance with operating instructions.

EXPORT: Assemble according to assembly instructions enclosed.

# LIGHT TOWER MODEL CODING SYSTEM

## IMPORTANT

WHEN REQUESTING TECHNICAL HELP AND ORDERING REPLACEMENT PARTS THE MODEL AND SERIAL NUMBER ARE NECESSARY

REFER TO THE AMIDA SERIAL NUMBER TAG ON THE UNIT FOR CORRECT MODEL NUMBER AND SERIAL NUMBER.

### MODEL NUMBER IDENTIFICATION

Sample :

Light Tower Product Line	LT7	080 D	4	MII	CE
Tower Series _____					
AL4000 (AL4) = 30 Foot Basic Tower with winch in cabinet					
AL5000 (ALS) = 30 Foot Basic Tower with in-cabinet light storage and door insulation					
5000 (5) = 30 Foot Enhanced Cable Tower					
2000 (2) = Model 5000 with extra corrosion protection					
LT5000 (LT5) = 30 Foot Deluxe Cable Tower w/optional Acoustic Enclosure and Complete Instrumentation					
LT2000 (LT2) = Model LT5000 with Extra Corrosion Protection					
7000 (7) = 30 Foot Enhanced Hydraulic Tower					
LT7000 (LT7) = 30 Foot Deluxe Hydraulic Tower w/optional Acoustic Enclosure and Complete Instrumentation					
KW Rating _____ (080 is 8.0 kW)					
Diesel (D) or Gas (G) _____					
Number of Lights _____					
Type of Lights _____					
European Version (AL4000 Only) _____					

HPS = High Pressure Sodium

MH= Metal Halide

MV= Mercury Vapor

TH= Tungsten Halogen



Light Tower

~~SERIES~~ LT7000 LIGHT TOWER  
~~OPERATION~~ AND SERVICE MANUAL

Produced by the Technical Publications Department of  
Terex Light Construction

TEREX Light Construction

HYDRAULIC OPERATED LIGHTTOWER OPERATING PROCEDURES  
LT7000 SERIES

IMPORTANT: READ ALL DIRECTIONS IN THIS MANUAL CAREFULLY  
BEFORE OPERATING THIS PIECE OF EQUIPMENT

WARNING \* CAUTION DO NOT RAISE TOWER IN THE VICINITY OF  
OVERHEAD POWER LINES!

## OPERATING INSTRUCTIONS

### I MOVE LIGHT TOWER TO DESIRED LOCATION KEEPING THE FOLLOWING IN MIND:

- A. The light tower should not be placed where those working under the light either:
  - 1) Are forced to look into the light regularly.
  - 2) Are forced to work with their backs to the light (shadows will block the light from the work area).
- B. The area where the tower is positioned should be relatively level so the tower is easily leveled and it will not have a tendency to roll downhill.
- C. When possible the light tower should be located on the same level or on ground higher than the area being lighted (higher light mounting heights reduce shadow length).

### II UNHITCH FROM THE TOWING VEHICLE AS FOLLOWS:

- A. Chock wheels if trailer is not on level ground.
- B. Swing the tongue jack into position and raise the tongue of the towing vehicle.

### III. LEVEL THE TRAILER, USING JACKS AS FOLLOWS:

- A. Start at the highest jack position. Rotate the jack handle until the jack foot touches the ground.
- B. Raise other jacks to level trailer. CAUTION - Ensure the rear jacks(s) are down to prevent the tower from tipping over backwards when raised.

### IV. DRIVE GROUNDING ROD INTO GROUND.

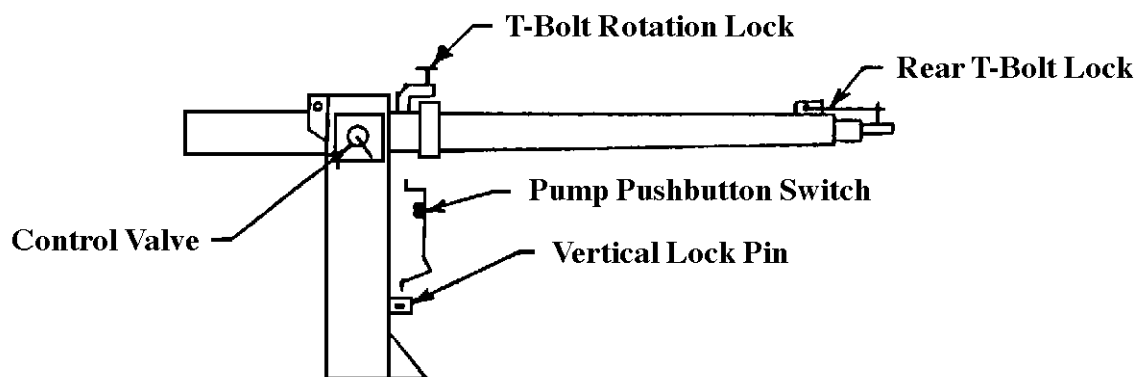
### V. INSTALL THE FLOODLIGHTS ON THE CROSSARM

- A. Remove light fixtures from cushioned transport storage rack. Mount light fixtures onto crossarm.

- B. Mount light fixtures onto crossarm studs with lens facing the ground.
- C. The cord on the fixture should be on the side closest on the trailer so the cord entry is beneath the fixture when the tower is raised (this reduces moisture problems and ensures the water weep hole in the fixture is down.)
- D. Set the vertical aim desired for each light fixture by adjusting light fixtures and tightening lower bolt.
- E. Set the spread between light fixtures horizontal aiming by adjusting light fixtures and tightening wing nut.
- F. The trailer may be towed with the light fixtures mounted on the crossarm if they are aimed toward the ground.
- G. Plug the fixture into receptacles provided. If they are plugged into the numbered receptacles in a clockwise rotation, starting at upper right or 1:00 o'clock position, it is easy to troubleshoot the electrical system without lowering the tower. (See Troubleshooting Guide).

#### VII. START THE ENGINE/GENERATOR SET:

- A. CAUTION - Ensure the circuit breakers are turned "off". This prevents the engine from starting under load and prevents electrical equipment from being subjected to improper voltage and frequency.
- B. Check the oil, fuel and coolant (if liquid cooled) levels. If the fuel tank is empty, it may be necessary to bleed the fuel line after filling the tank (see engine instruction book for procedure).
- C. If engine is fitted with glow plugs, turn switch to preheat until indicator glows (approximately two minutes).
- D. If engine is fitted with shutdown system relay, push in relay bypass button while starting engine.
- E. Turn switch to "Start" to start the engine. Let it come to speed and stabilize. (Review the engine start-up procedures in operating instructions.)
- F. Turn on main circuit breaker.
- G. Check control panel gauges and status lights.
  - a Oil pressure should be within engine manual recommended range.
  - b Ammeter should show battery is charging.
  - c Air filter light should be off. If it is on, filter needs cleaning or changing.
  - d Frequency meter should register 60 to 62 cycles per second (Hertz).
- H. Close control panel door and latch to protect from rain.
- I. Close generator enclosure doors to contain noise.



#### VI RAISE THE TOWER (Normal vertical Setup)

- A. Unhitch tower-locking pin at end of tower .
- B. Set control valve to "stand up." Push pump switch.
- C. Turn control valve to "telescope up." Push pump switch in control box. Release switch when tower reaches desired height.
- D. If tower has jerky motion while being raised or has been stored or shipped, it may require bleeding to remove air from hydraulic system. To bleed pivot cylinder, crack plug at top of cylinder, set control valve to "stand up" and run pump. To bleed telescope cylinder, open bleed valve. Set control valve to "telescope up" and run pump. Be sure hydraulic oil reservoir full when tower is horizontal.

#### VII RAISE THE TOWER (Open Pit Setup)

- A. Unhitch tower locking pin at end of tower .
- B. Set control valve to "stand up." Push pump switch.
- C. Turn control valve to "telescope up." Push pump switch in control box. Release switch when tower reaches desired height (probably 20 ft.) DO NOT rotate tower .
- D. Turn control valve to "lay down." Pull tower vertical lock release, and lower tower to shine down into pit. When tower reaches desired position, turn control valve to "stand up" to hold tower .

#### VIII. TURN ON THE FLOODLIGHTS

- A. Turn the lights circuit breakers "on". Consult engine manual for adjusting generator .
- B. Rotate the tower to the aiming desired. Tighten the tower rotating locking bolt.
- C. Lower the tower and adjust lighting direction of individual fixtures if required.

IX. LOWERING THE TOWER TO TRAVEL POSITION

- A. Turn light circuit breakers off
- B. Rotate tower to face lights to rear.
- C. Turn control valve to "telescope down." Wait for tower to fully telescope down.
- D. Turn control valve to "lay down"
- E. Latch Tower locking pin.
- F. Insert the rear tower horizontal (travel) locking pin.

X. TURN OFF FLOODLIGHTS

- A. Turn light circuit breakers off
- B. CAUTION - Allow lamps to cool at least ten (10) minutes before moving the tower (hot lamps break easily, and they are very expensive).
- C. Turn engine switch to "off" to shut down engine. (Do not shut down engine before turning off light circuit breakers).

XI. RELOCATING LIGHT TOWER TO NEW LOCATION

- A. CAUTION - Allow the lamps to cool at least ten (10) minutes before moving the tower. (Hot lamps break easily, and they are very expensive). See Section X.
- B. CAUTION - Lay down tower before relocating. See section IX.
- C. If fixtures are to remain on the crossarm, ensure all fixtures are aimed toward the ground. Fixtures may be stored on cushioned storage rack in cabinet for safer transport.
- D. CAUTION - Ensure rear tower locking pin is in place.
- E. CAUTION - Ensure all jacks are raised and all outriggers are locked into the travel position.
- F. Ensure the coupler is properly secured to the towing vehicle and attach safety chains..
- G. Do not tow at excessive speeds as the weight of this light tower can cause loss of vehicle control, especially under emergency stopping conditions.

XI. USE OF LIGHT TOWER AUXILIARY POWER

- A. Three receptacles are provided for auxiliary power:
  - a 120 volt duplex, 20 amp capacity, Ground Fault Protected.
  - b 120 volt twist-lock, 20 amp capacity.
  - c 240 volt twist-lock, 30 amp capacity.
- B. Close door to control panel so auxiliary power cords exit under rubber flaps. Keep control panel protected from rain.

## RECOMMENDED ENGINE OIL & FUEL

### TEREX FLOODLIGHTS

WITH LISTER LT, ST, TS, TL, LV AND HR SERIES DIESEL ENGINES

#### GRADES

\*\*\* CAUTION\*\*\*

Recommended oil grade is oil with API designation of CC/SF or CD/SF. Use CC grade oil for initial run-in period. Multi-viscosity oils (such as 10W-40) should not be used at temperatures above 32 F. Be sure to use the right oil viscosity for the weather you are experiencing. When this engine left the factory it was filled with engine oil as specified on page one..

#### RECOMMENDED VISCOSITIES

AMBIENT TEMPERATURE RANGE	OIL	FUEL
86 F & warmer (30 C)	SAE 30	#2
Between 39 F & 86 F (4 C & 30 C)	SAE 20W/50 SAE 15W/40	#2
Between 5 F & 39 F (-15 C & 4 C)	SAE 10W	#2
Below 5 F (-15 C)	SAE 5W	#1

#### NOTES:

- A. The temperatures mentioned in the table are the ambient temperatures at the time when the engine is started. However, if the running ambient temperatures are much higher than the starting temperatures, a compromise must be struck and a higher viscosity oil and fuel used, provided starting is satisfactory; multigrade oils overcome the problem, provided they have a suitable specification.
- B. MIL-L-2104B or MIL-L-2104C or API CD oils are recommended for these engines, particularly in conjunction with high ambient temperatures. They must also be used if the sulphur content of the fuel exceeds 0.6%.

\*\*\* CAUTION\*\*\*

- C. The use of Series III oils in new, or overhauled naturally aspirated engines can inhibit break-in, and give rise to cylinder bore glazing in engines running on low duty cycles. They should therefore not be used for the first fill in new or over-hauled naturally aspirated engines, but may be used to advantage, after the first 250 hours, when an engine is operating in hot ambient temperature at a high load factor.

RECOMMENDED ENGINE OIL  
TEREX FLOODLIGHTS  
WITH KUBOTA DIESEL ENGINES

IMPORTANT

Engine oil should be MIL-L-2104B/MIL-L-2140C or have properties  
of API classification CC/CO grades.

Change the type of engine oil according to the ambient temperature.

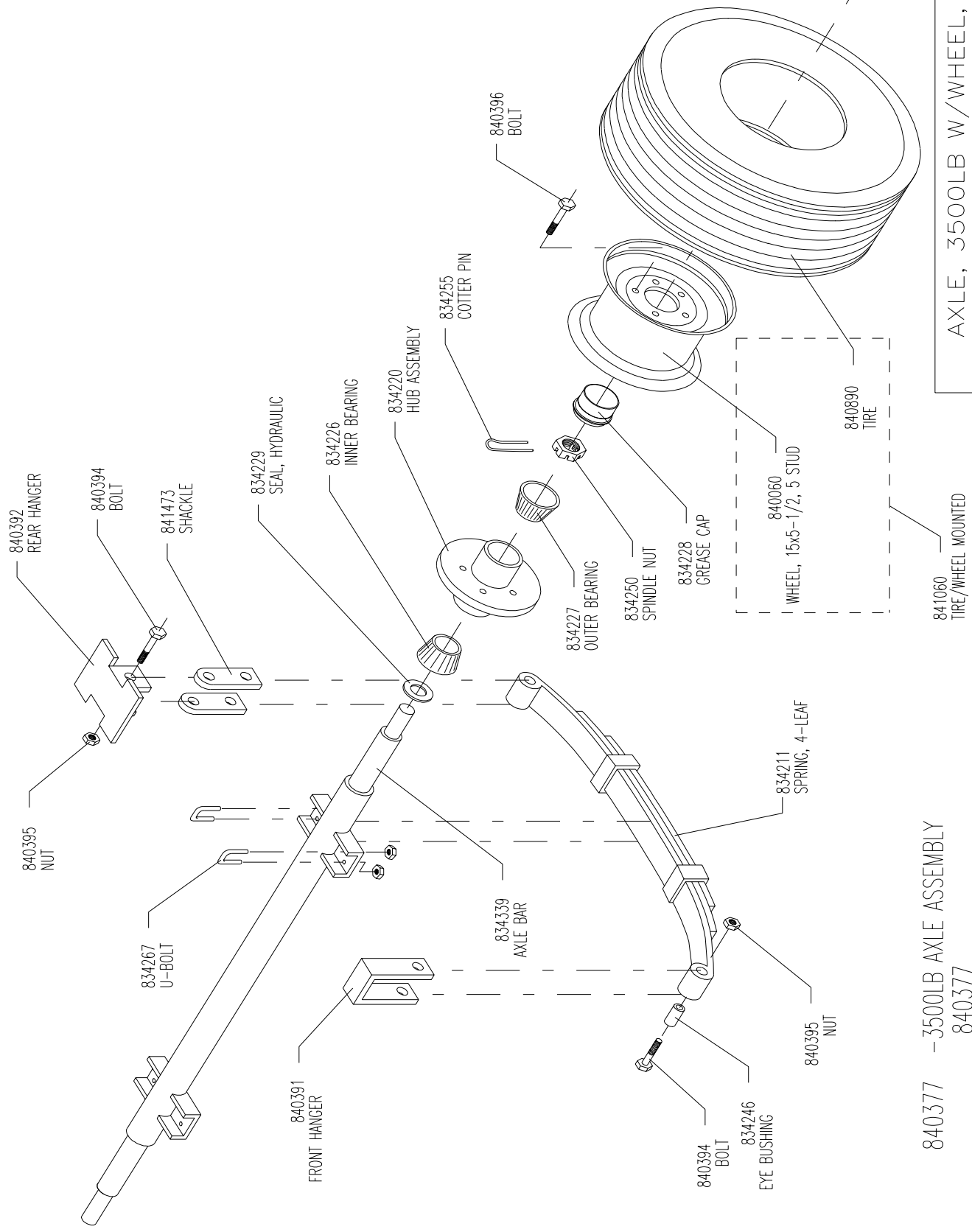
Above 77 degrees F.....SAE30  
32 degrees F to 77 degrees F.....SAE20  
below 32 degrees F..... SAE10W OR SAE 10W-30

CHECKING LEVEL AND ADDING ENGINE OIL

1. Check the engine oil level before starting the engine or more than five minutes after it has been stopped.
2. Detach the dipstick, wipe clean, reinsert it, take it out again, and check the oil level.
3. If the oil level is too low, remove the oil plug and supply new oil to the prescribed level.





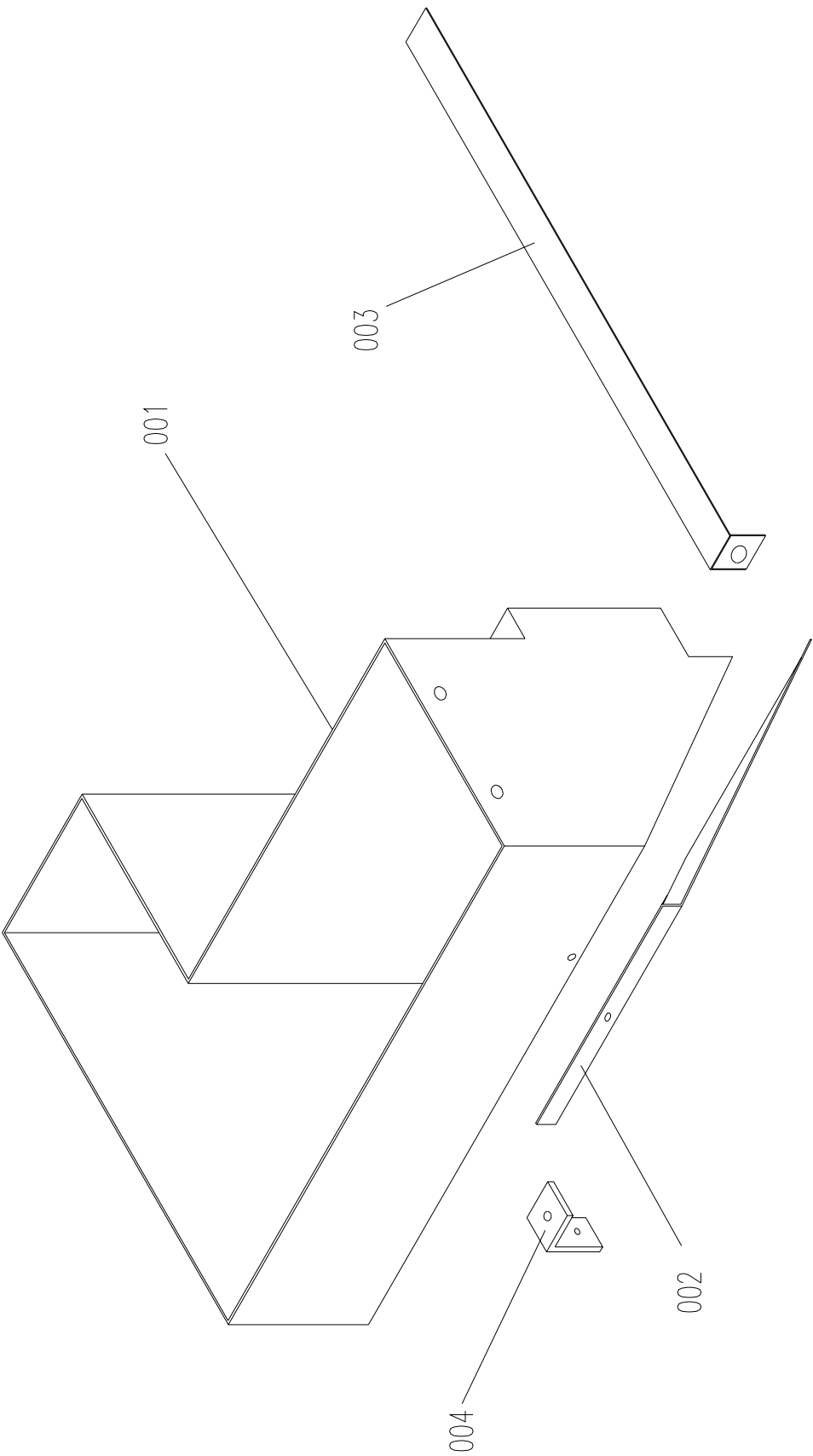


840377 -3500LB AXLE ASSEMBLY  
840377

AXLE, 3500LB W/WHEEL, LT5/7000

PARTS IDENTIFICATION DRAWING

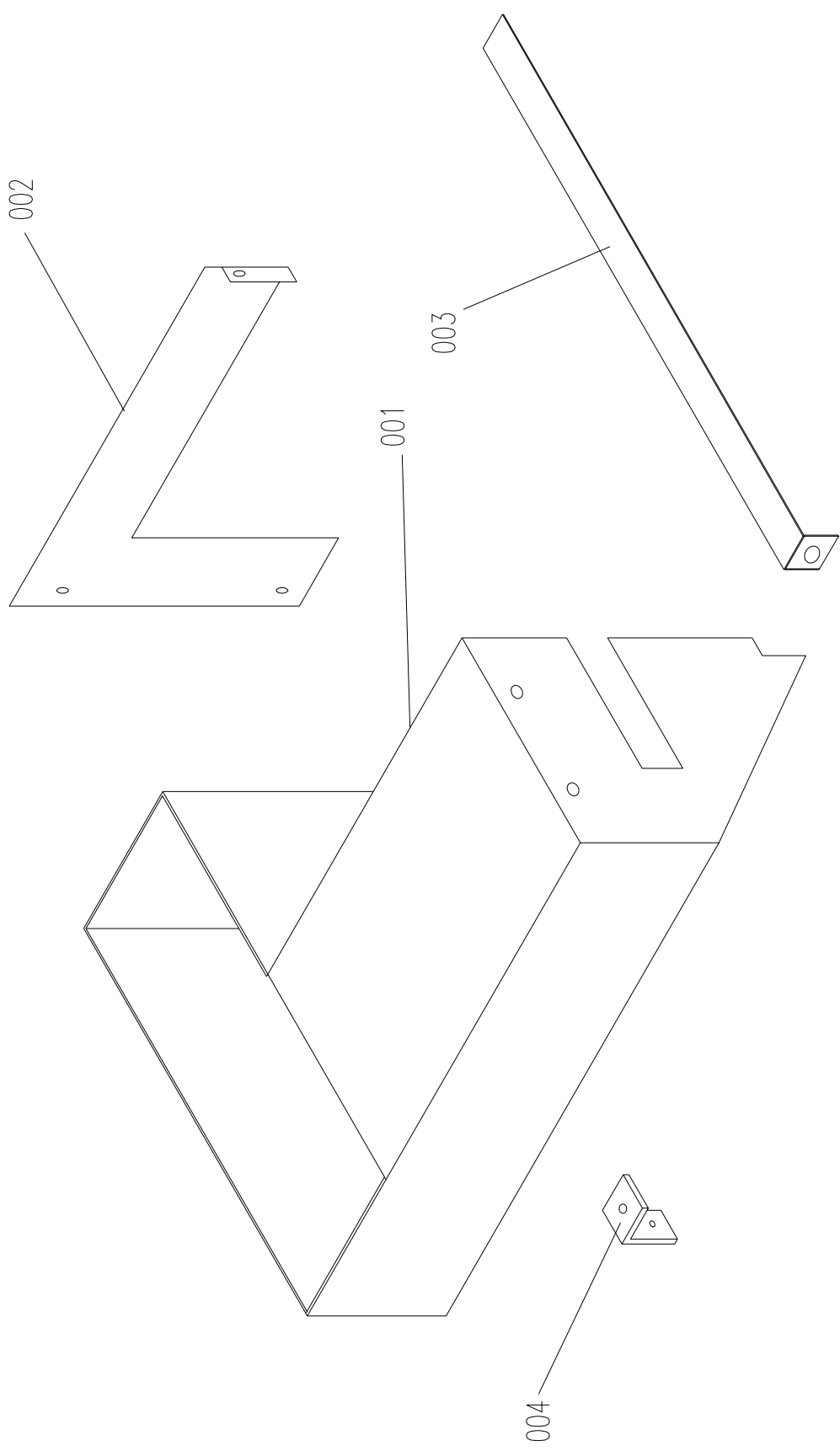
DRWN BY	CNM	DATE	10/16/91	DWG NO.	9055
---------	-----	------	----------	---------	------



LT5 & 7000 AIR EXHAUST DUCT, TS-			
PARTS IDENTIFICATION DRAWING			
DRWN By	GMB	DATE 6/7/93	DWG NO. 9109B

# D R A W I N G # 9109B - L T 5 & 7 A I R E X H A U S T D U C T - T S 2

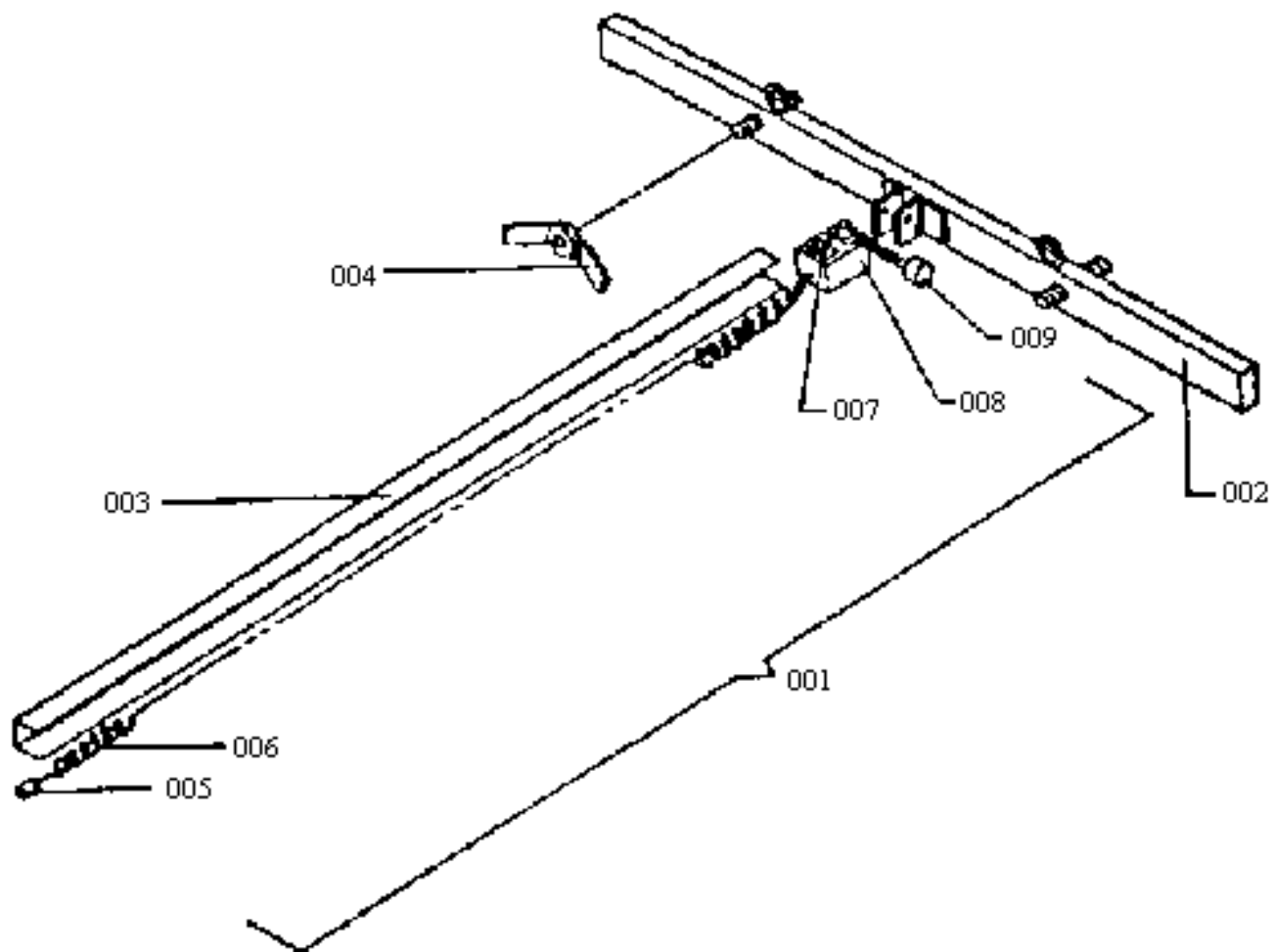
ITEM #	P A R T #	D E S C R I P T I O N
-001	115181	AS-AIR EXHAUST DUCT L I S T E R T S / 2 , 3 4 5 2 L T 5 & 7
-002	186330	FP-AIR EXHAUST DUCT, COVER PLATE, 2781F
-003	124250	AS -ANGLE, AIR DUCT CROSS, SUPPORT, 4031
-004	187750	FP-ANGLE, AIR DUCT BOTTOM SUPPORT, 3X2X1/4, 4027



LT5 & 7000 AIR EXHAUST DUCT, LPA3			
PARTS IDENTIFICATION DRAWING			
DRWN BY	GMB	DATE 8/4/93	DWG NO. 9366

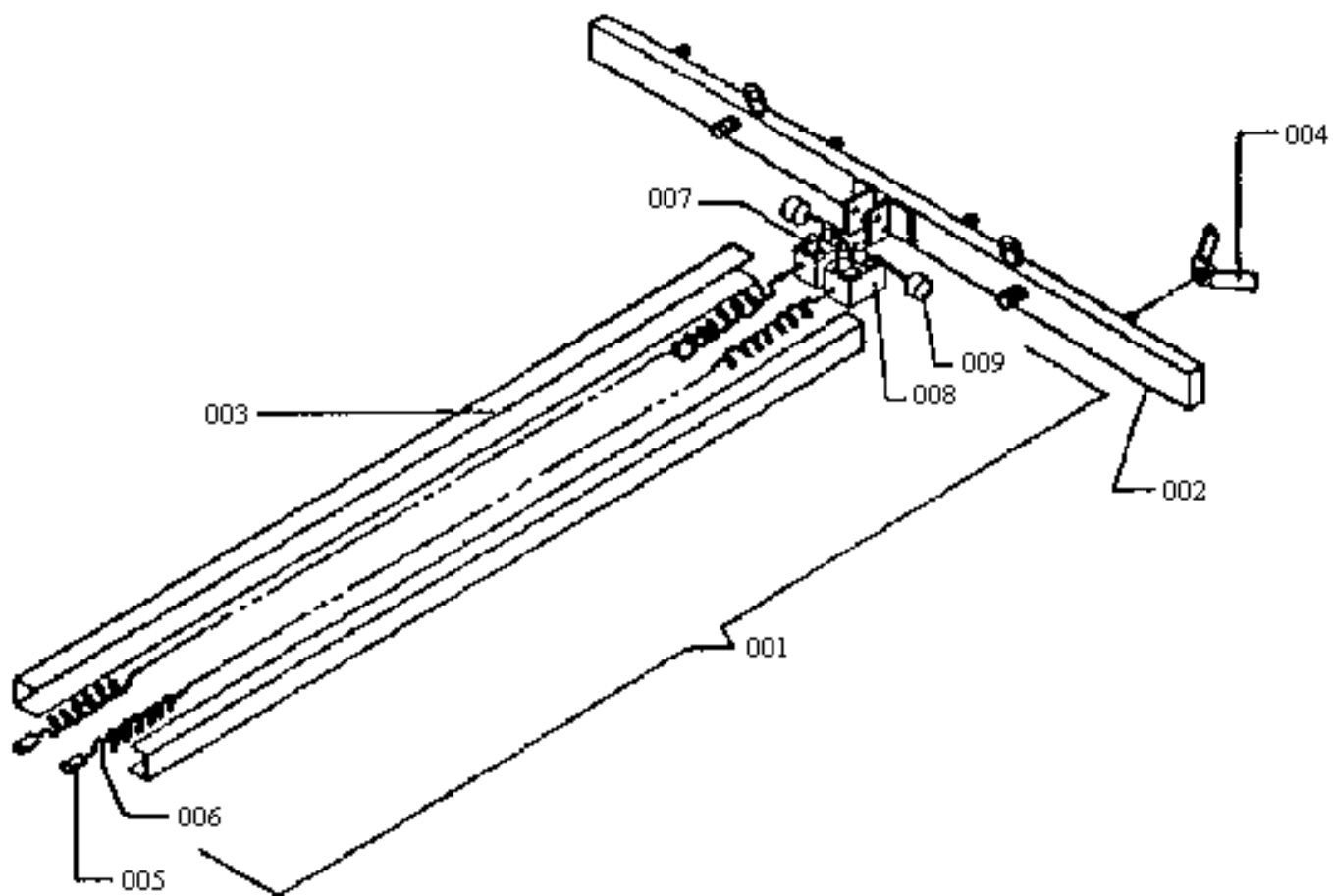
# D R A W I N G # 9366 - LT5&7 AIR EXHAUST DUCT - LPA3

ITEM #	P A R T #	DESCRIPTION
-001	115181	AS-AIR EXHAUST DUCTALPHA-LPA3, 4167A
-002	186330	FP-AIR EXHAUST DUCT, BACK COVER PLATE, LPA3, 4168A, LT
-003	124250	AS -ANGLE, AIR DUCT CROSS, SUPPORT, 4031
-004	187750	FP-ANGLE, AIR DUCT BOTTOM SUPPORT, 3X2X1/4, 4027



# DRAWING# 9062A -LT5&7 WIRING/CROSSARM, 4-LIGHT

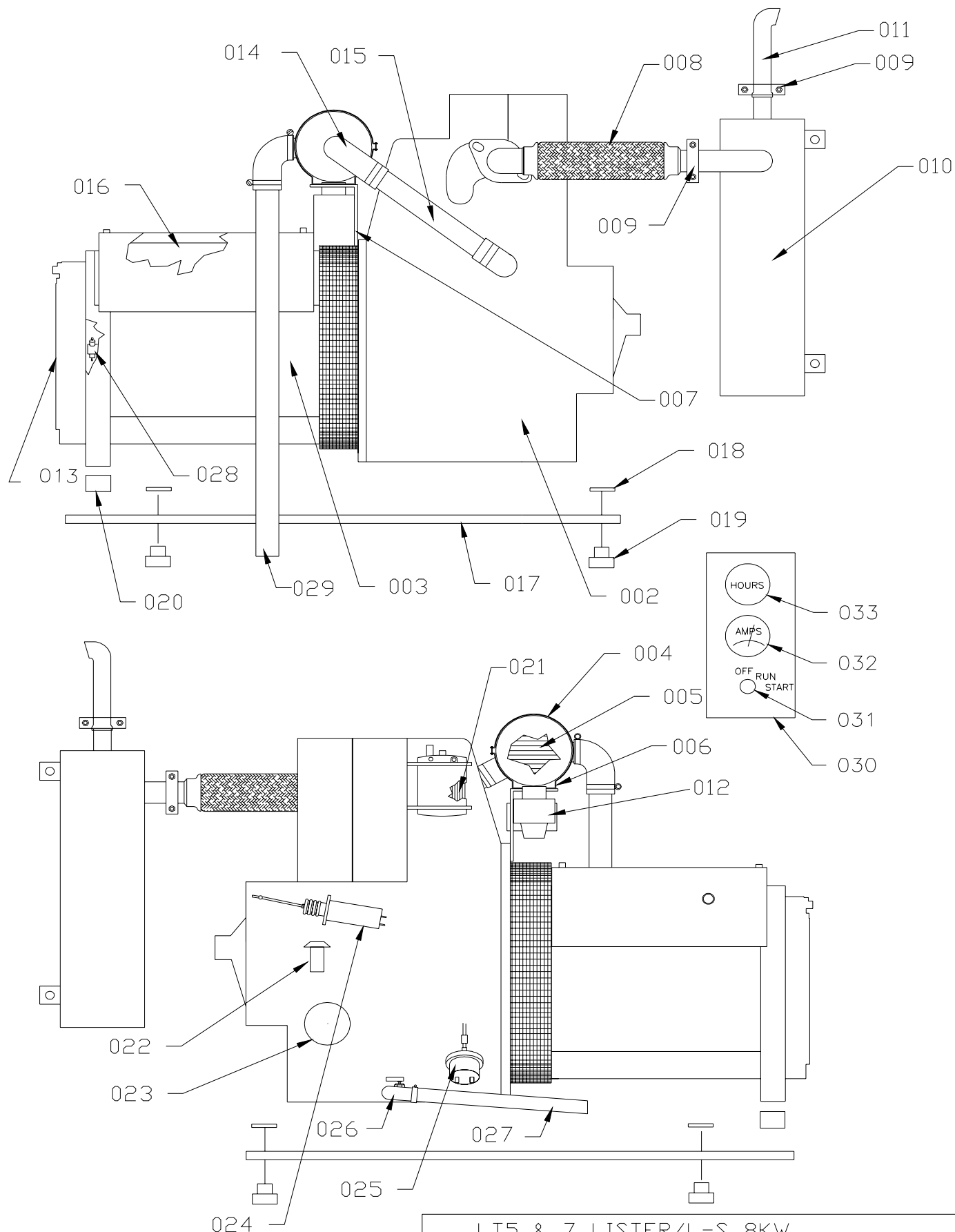
ITEM #	PART #	DESCRIPTION
-001	114655	EA-COIL CORD, 4MH/HPS W/JUNCTION BOX, 7P .PLUG, JOY
-002	113040	AS-CROSSARM,4-LIGHT/HPS, 1750, SL4, LT
-003	113080	AS-COIL COOD SLEEVE W/ANGLE END, 4C, LTA, LTB
-004	123080	AS-FIXTURE MOUNTING WING NUT , 1830, 7000
-005	685660	CONNECTOR, 7P, PLUG, CANNON #MS3106F20-15P
-006	660287	CORD RETRACT, 14/7, SOWA 66" COIL, 10 & 54" TAIL, STD.
-007	663870	CONNECTOR, 3P, FEMALE RECEPT, JOY-5000109-9
-008	121620	AS-BOX WITH MOUNT BAR S,W/7 1/2" HUBS, 3626
-009	663880	CAP FOR RECEPTICLE, W/CHAIN, JOY-3316582-1





# DRAWING# 9063A -LT5&7 WIRING/CROSSARM, 6-LIGHT

ITEM #	PART #	DESCRIPTION
-001	114815	EA-COIL CORD, 3MH/HPS W/JUNCTION BOX, 7P-PLUG, JOY
-002	113050	AS-CROSSARM,6-LIGHT/HPS, 1751, LT7
-003	113080	AS-COIL COOD SLEEVE W/ANGLE END, 4C, LTA, LTB
-004	123080	AS-FIXTURE MOUNTING WING NUT , 1830, 7000
-005	685660	CONNECTOR, 7P, PLUG, CANNON #MS3106F20-15P
-006	660287	CORD RETRACT, 14/7, SOWA 66" COIL, 10 & 54" TAIL, STD.
-007	663870	CONNECTOR, 3P, FEMALE RECEPT, JOY-5000109-9
-008	121620	AS-BOX WITH MOUNT BAR S,W/7 1/2" HUBS, 3626
-009	663880	CAP FOR RECEPTICLE, W/CHAIN,JOY-3316582-1



001 GENSET ASSY COMPLETE

LT5 & 7 LISTER/L-S 8KW

PARTS IDENTIFICATION DRAWING

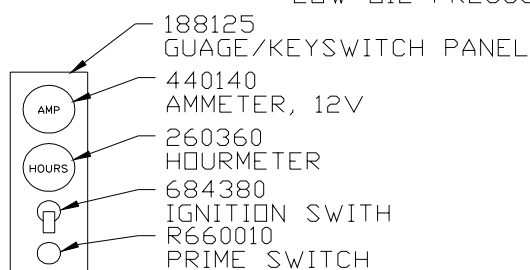
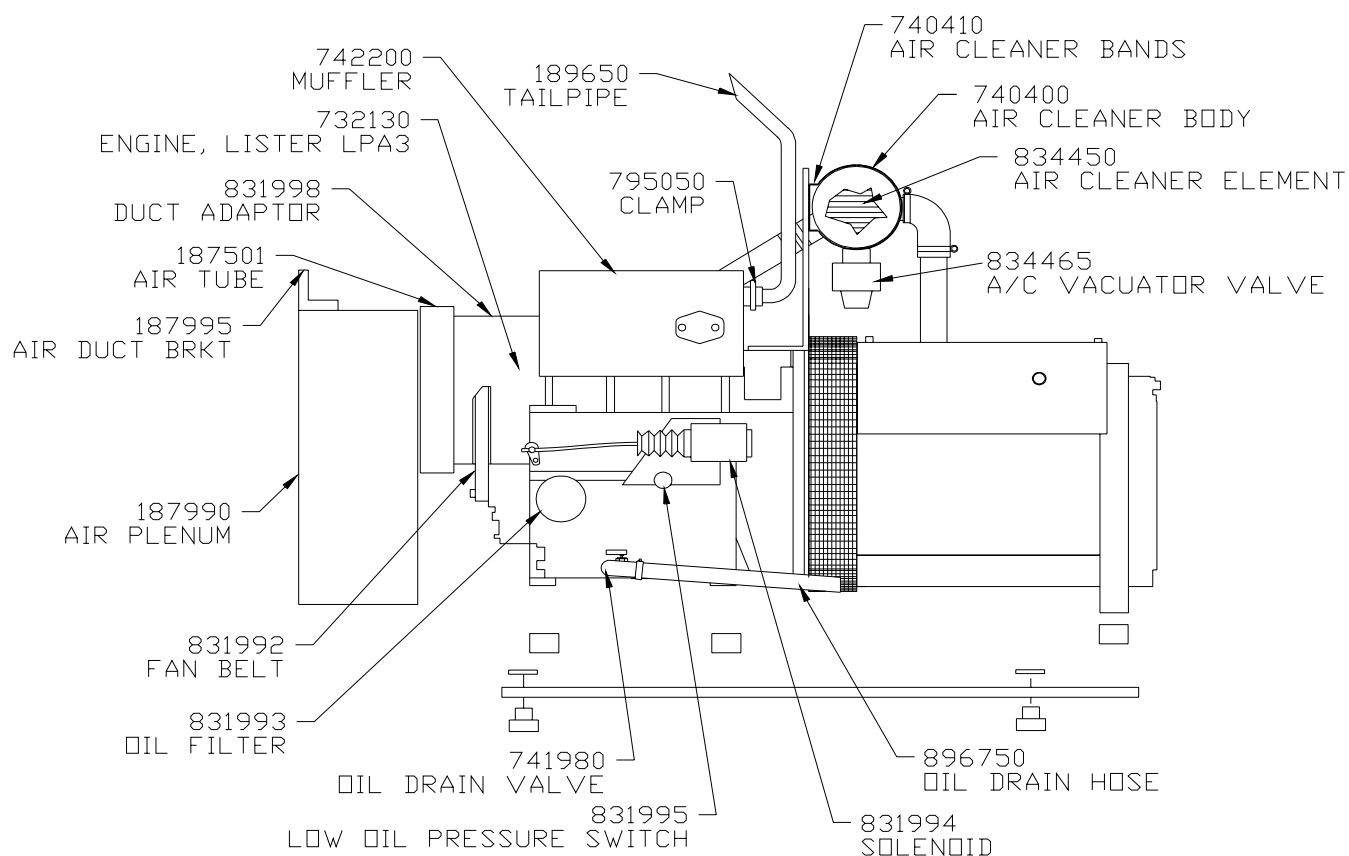
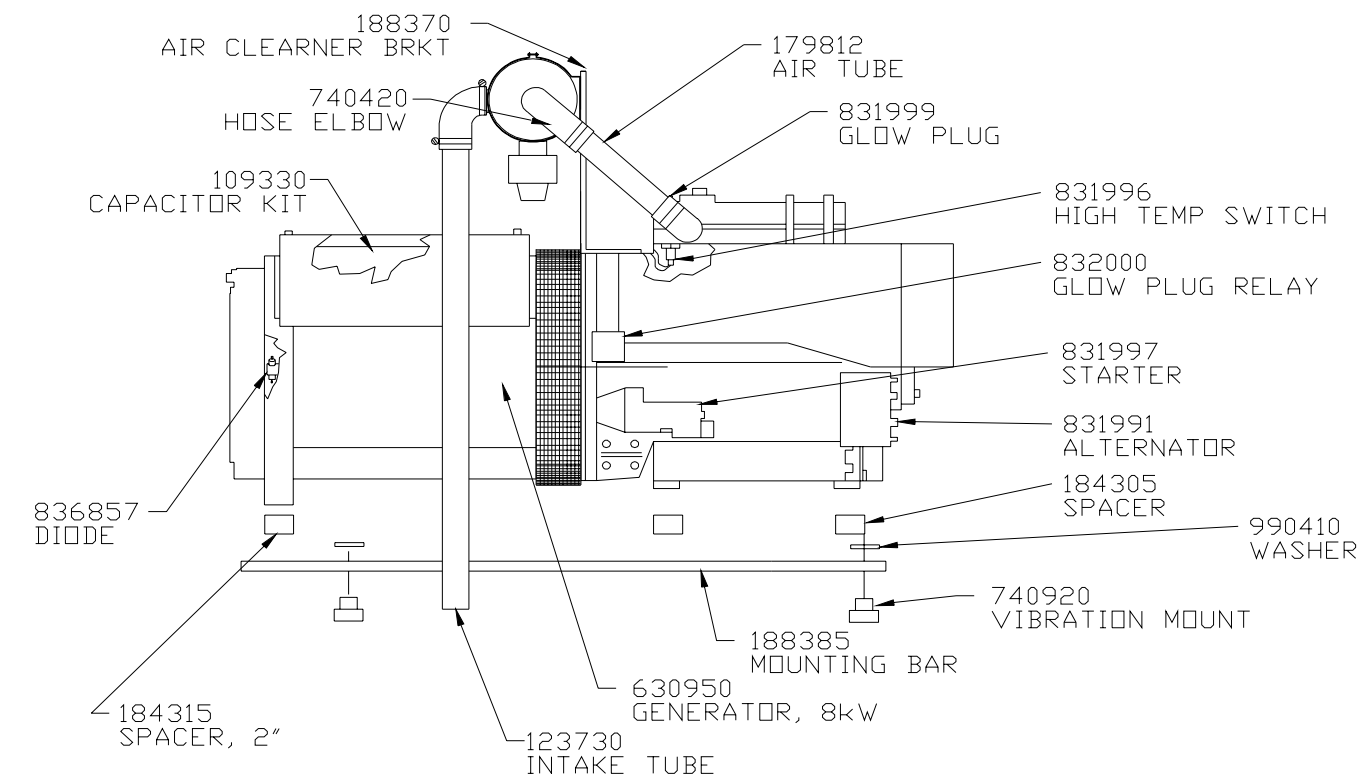
DRWN  
BY CNM

DATE 6/7/93

DWG NO. 9065C

# DRAWING# 9065C - LT5&7 TS2/L-S GENSET 8KW

ITEM #	PART #	DESCRIPTION
-001	115901	MA-GENSET L- S/TS2 KW 8W.AMP, HR MIR, SAE5, LT
-002	732452	LISTER TS2 ENGINE
-003	630057	GENERATOR, L-S 8KW. 1120/240, C106, SAE4, LSA38M7
-004	740400	AIR CLEANER WITH ELEMENT
-005	834450	AIR CLEANER DONALDSON
-006	740410	BANDS, AIR CLEANER AMIDA BEIGE PPP00-2348
-007	415500	AIR CLEANER BRACKET
-008	124240	EXHAUST PIPE, FLEX W/FLANGE LT5 & LT7
-009	791600	CLAMP, MUFFLER 1-1/2"
-010	741850	MUFFLER, TS2, INSULATED NELSON
-011	741875	FP-MUFFLER TAILPIPE EXT 45°, 3919, LT5 & LT7
-012	834465	AIR CLEANER VACUATOR VALVE
-013	838628	BEARING
-014	740420	2-1/4" 90 DEGREE RUBBER ELBOW
-015	179810	2' AIR TUBE
-016	109330	KIT: CAPACITOR REPLACEMENT FOR 8KW LEROY, 2-50UF
-017	184971	MOTOR MOUNT BAR, TS2/ALPHA-LS/KUBOTA
-018	990410	WASHER FOR VIBRATION MOUNT
-019	740920	RUBBER VIBRATION MOUNT
-020	184301	GENERATOR SPACER
-021	831023	ELEMENT, FUEL FILTER LISTER 351-29760
-022	830859	FUEL PUMP & CONVERSION KIT TS/TR3
-023	830720	ELEMENT, OIL FILTER LISTER 201-55370
-024	832750	LISTER SOLENOID TS2, 3 WIRE
-025	830010	SWITCH, LOW OIL PRESSURE LISTER 000-00033
-026	741980	OIL DRAIN VALVE, LISTER TS2
-027	896750	HOSE OIL DRAIN 5/8"
-028	836857	DIODE LSA38 6KW & 8KW MODEL- 70HF80
-029	830859	AS-AIR CLEANER INTAKE TUBE W/TAB, 23637C, LT5 & 7
-030	830720	FP-GAUGE PANEL W/2 GA.& KEY SWITCH W/KEY, 3658, GS
-031	832750	SOLENOID, TS2-3 3-WIRE SYNCHRO START 1502ES
-032	830010	AMMETER, 12V, 10-0-10 DATCON 06111-01
-033	741980	HOURLY METER 12V DC HOBBS 80048

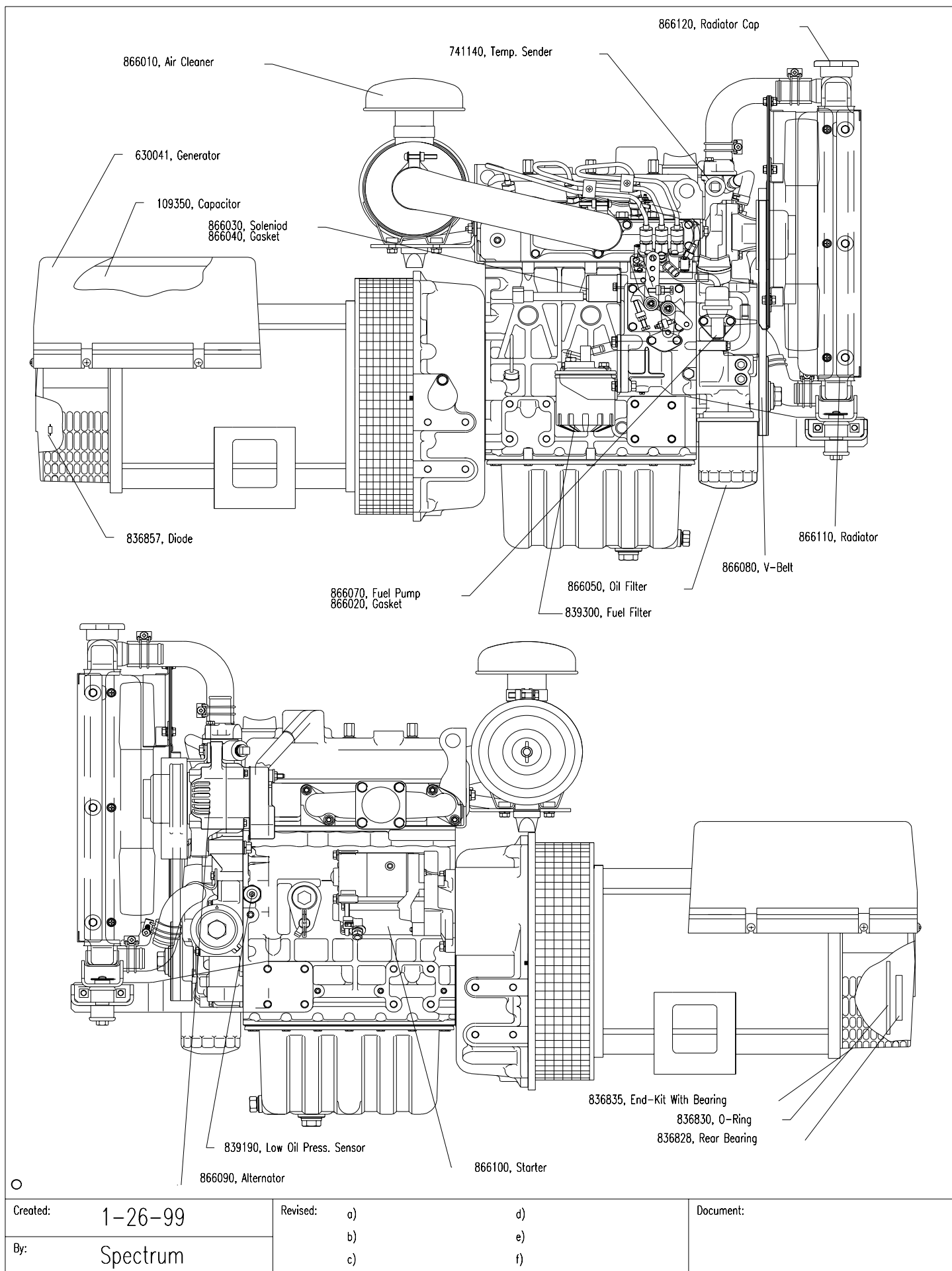


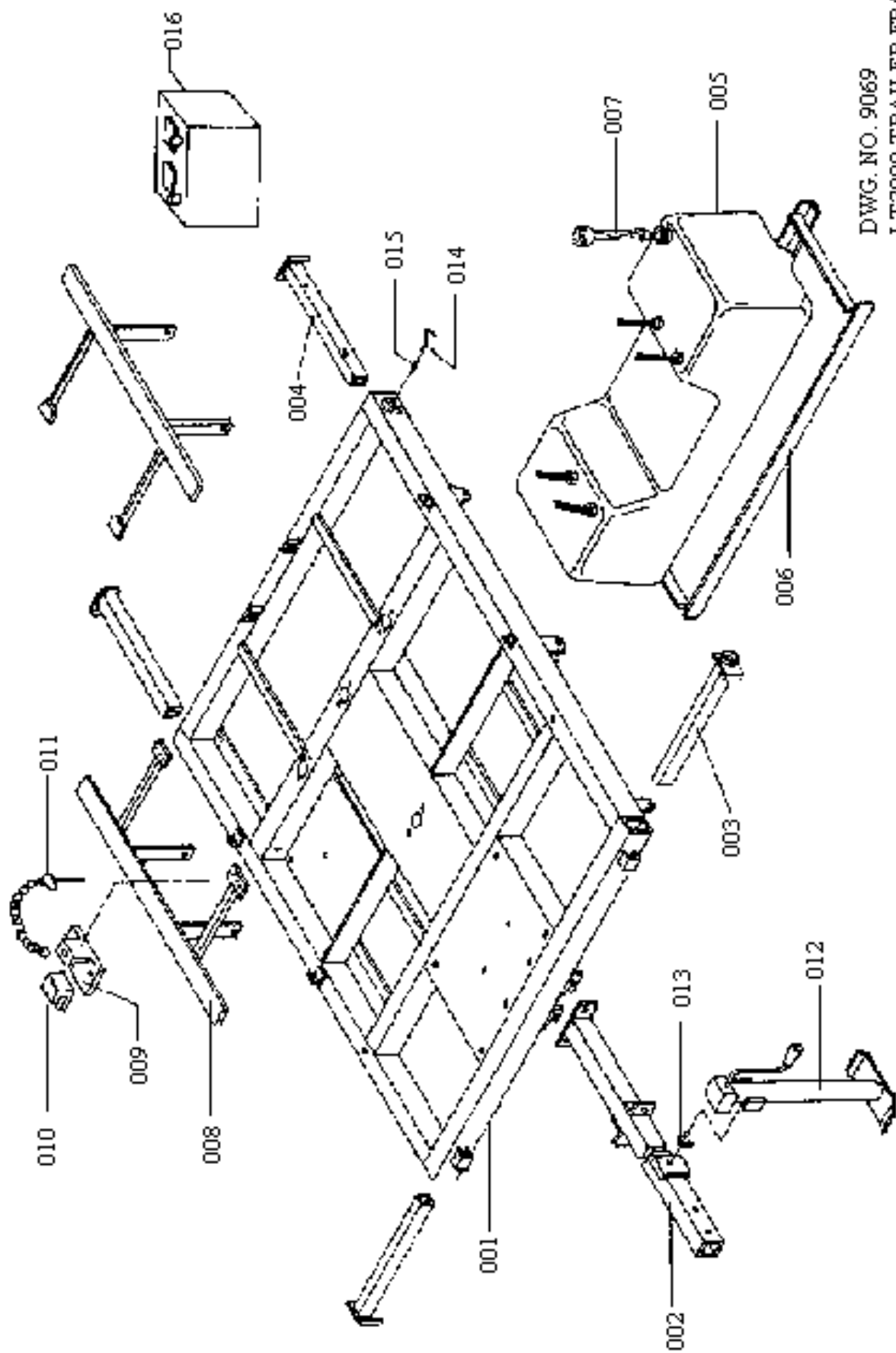
# 116130 GENSET ASSY COMPLETE

GENSET, 7.5KW L-S/LPA3, LT5/7

## PARTS IDENTIFICATION DRAWING

DRWN BY	RMS	DATE	11/16/94	DWG NO.	9365
---------	-----	------	----------	---------	------

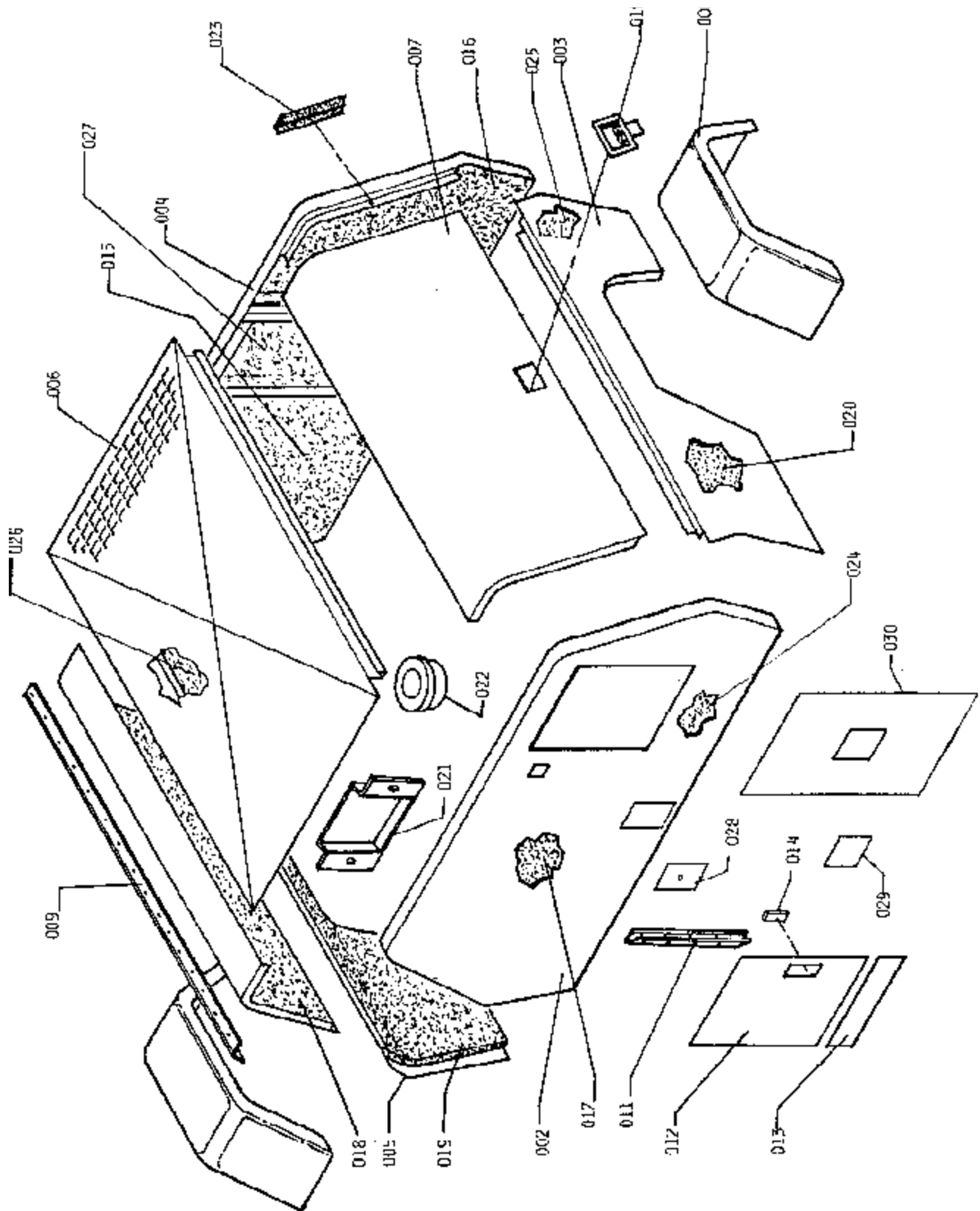




DWG. NO. 9069  
LT7000 TRAILER FRAME

## DRAWING# 9069 - LT7000 TRAILER FRAME

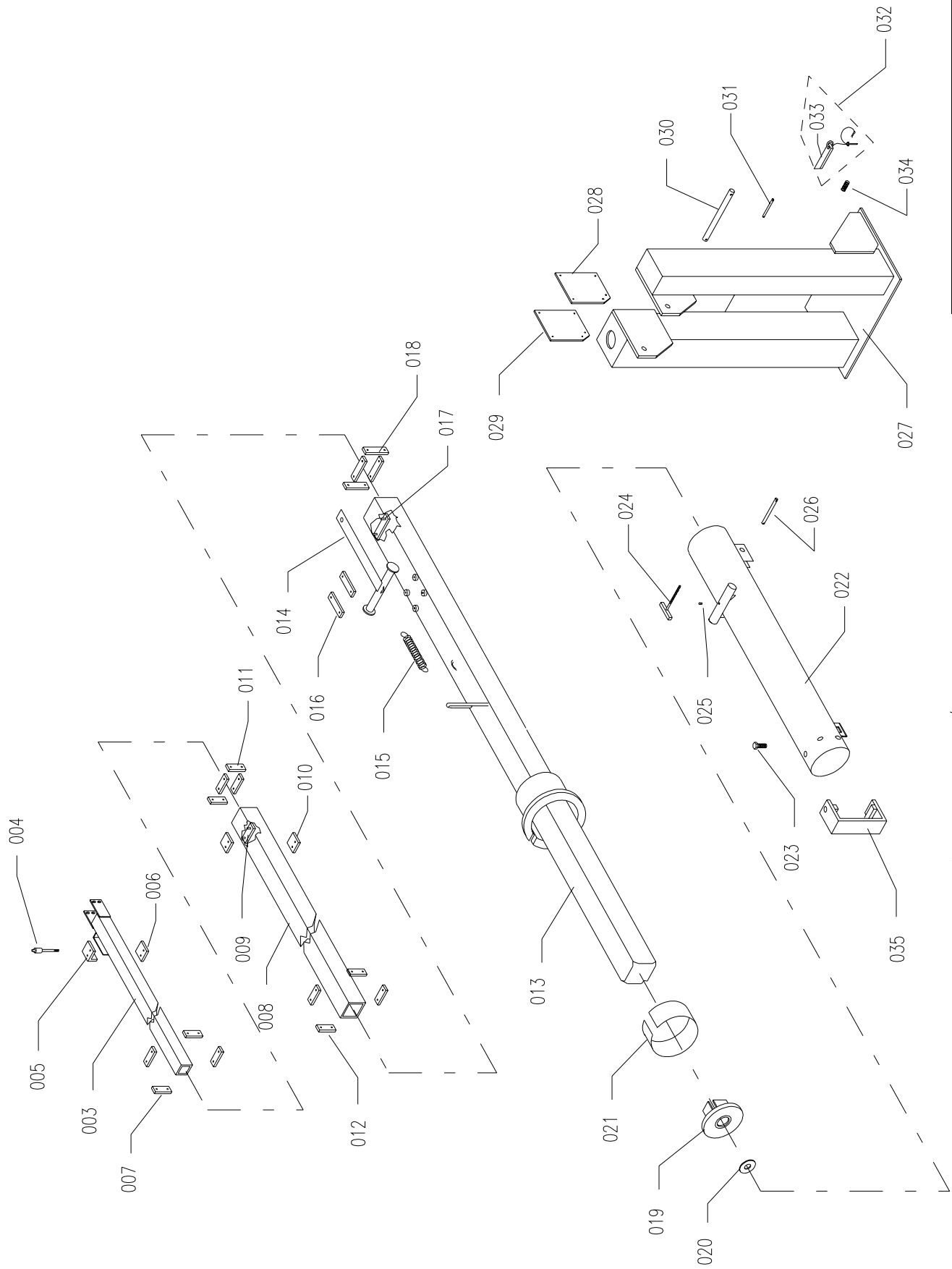
ITEM #	PART #	DESCRIPTION
-001	123445	AS-TRAILER FRAME,2-30 GAL, 5JK, 4OR, 3370E, 7LT
-002	110321	AS-TONGUE, B-O-H W/JACK LTA, LTB, G15W, G25, 4097
-003	114612	AS-OUTRIGGER,3X2X32.5",2514B.LT REAR, LT7FRONT
-004	114600	AS-OUTRIGGER,3X2X44"
-005	741720	12. LT7 REAR TAN, .FUEL,30GAL, .RMPE,17Wx50LX11, .2301.LT5/7
-006	114720	AS-FUEL TANK BRKT. 2538A,LT5/7
-007	741710	TANK CAP & GAUGE,15.25 KELCH 6290B-ADV-15.25
-008	114715	AS-FIXTURE MOUNTING BRKT,2-30 GAL TANKS, 3310A
-009	184840	AS-FIXTURE STORAGE CUSH.BRKT,2428 GAL LT5/7
-010	720400	FIXTURE STORAGE RUBBER CUSHION, 2429,LT5/77
-011	793490	PIN, COTTERLESS HITCH 1/4X2W/RING, ZP, 30-08
-012	841430	JACK, SIDEW, LONG, 3KLB FT, L-P IN, ZP, 620260
-013	840222	JACK SNAP RING 011001
-014	790965-1	PLUNGER PIN-L-BEND P/N 009041
-015	790965-4	PLUNGER PIN SPRING P/N 015906
-016	160110	BATTERY 410 AMP WET 24F5000





# D R A W I N G # 9070B - LT7000 GENERATOR ENCLOSURE

ITEM #	P A R T #	DESCRIPTION
-001	123460	AS-CABINET FRONT 7000, 2347A
-002	184060	FP-CABINET SIDE, CURB-5 ROAD-7, 2329H, LT5&7000
-003	1232475	AS-CABINET REAR, LTS&7 TS2?, .KUBOTA, INSUL MUFF
-004	184050	FP-CABINET SIDE, ROAD-5 CUR B-7, 3043E, LT5&7000
-005	123990	AS-CABINET TOP, 5&7LTB W/INS, MUFFLER, 2995
-006	123480	AS-CABINET DOOR LT5&7000, 123490
-007	123490	AS-FENDERW/SKIRTLT5&7
-009	794860	HINGE, PIANG, 1.5X55.5
-010	794935	DOOR LATCH, RECESSED, ZP W/HASP, 3-5900-P (25)
-011	794820	HINGE, PIANO, 1. 5X14. S 5/51 2434, LTS&7000
-012	184161	FP-DOOR FOR CONTROL BOX, 2357~ LT5&7000
-013	184170	FP-RUBBER DOOR SEAL FLAP, 2358, LT5&7000
-014	794845	LOCK, CAM FOR ELEC. BOX DOOR, AUTO HARDWARE#DL20
-015	184210	FP-ACOUSTIC FOAM, REAR, CURBSIDE, LTS&7000
-016	184200	FP-ACOUSTIC FOAM, REAR ROADSIDE, LT5&7000
-017	184190	FP-ACOU5TIC FOAM, FRONT RD. SIDE, LT5&7000, 2360C
-018	184180	FP-ACOUSTIC FOAM, DOOR LT5&7000
-019	186265	FP-ACOUSTIC FOAM CS/7 FRT, RS/S REAR, 2759
-020	186220	FP-ACOUSTIC FOAM RS/7 FRT, CS/S REAR, 2759
-021	176370	FP-LITERATURE RACK FOR CABINET, DWG# 1003, 5000
-022	684030	LIGHT, DOME, WITH SWITCH EA FOR GEN. ENCL. P/N 3905
-023	720430	WEATHERSTRIP, DOOR FT FLANGE, AU-VE-.CD#4675
-024	184195	FP-ACOUSTIC FOAM FRONT CB. SIDE, LT5/7000, 2360C
-025	186270	FP-ACDUSTIC FOAM RS/7 REAR, CS/5 FRT, 2760
-026	186275	FP-ACOUSTIC FOAM CS/7 REAR, RS/5 FRT, 2760
-027	184205	FP-ACOUST I C FOAM REAR CENTER SECTION, LT5~700
-028	186350	FP-COVER PLATE, LT7000 EA FRONT PANEL, 2804
-029	186280	FP-PLATE, COIL CORD CAB MDUNT, 2770, 4000C
-030	186820	FP-PLATE, ELECTRICAL BOX COVER, 2989B, LT5~~7

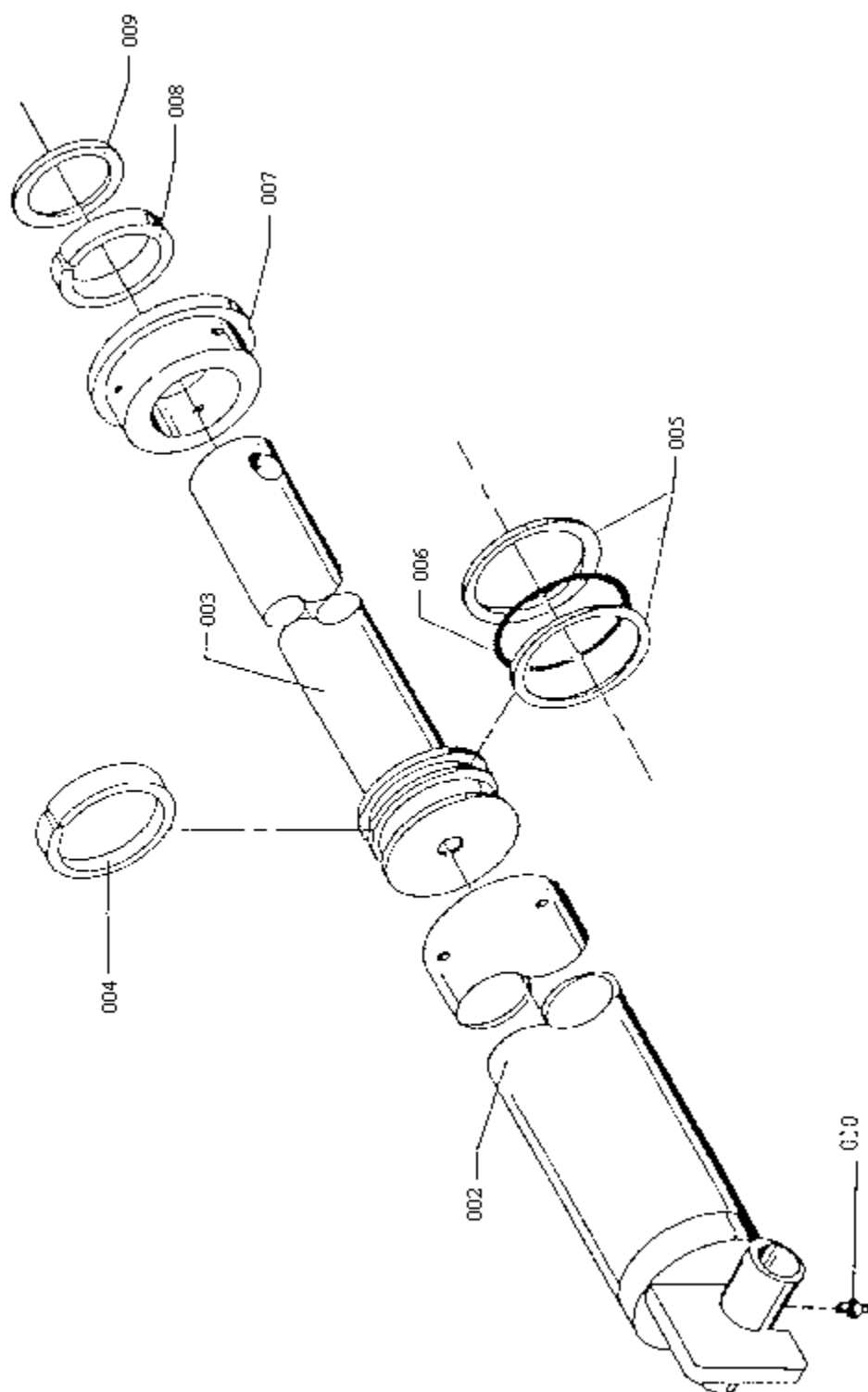


001 - TOWER ASSY. W/TELE CYL.  
 002 - BASE ASSY. W/PIVOT CYL.  
 PUMP & VALVE

LT7000 TOWER SECTIONS & BASE			
PARTS IDENTIFICATION DRAWING			
DRAWN BY	BCC	DATE	3-5-91
		DWG NO	9071

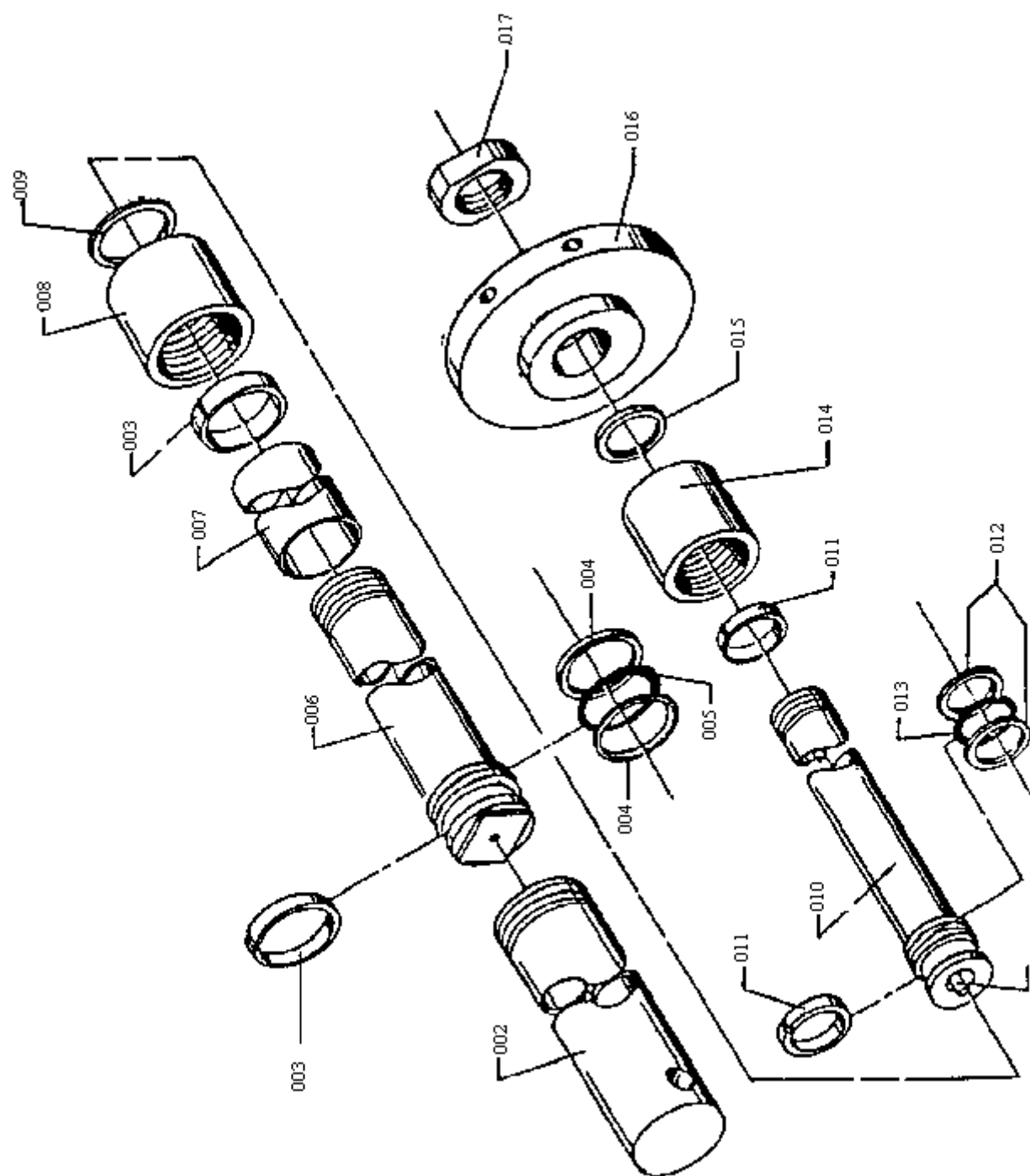
# DRAWING# 9071 - LT7 TOWER BASE & 1-COIL CORD

ITEM #	PART #	DESCRIPTION
-001	113023	MA-TOWER ASSVW/CYL W/ JIC FITTING,LT7000
-002	113003	MA-TOWER BASE W/PIPE, JIC,CYL.PUMP.VALVE.LT
-003	122540	A5-3" SECTION, ROT HYD TOWER.30',1710.7000
-004	181000	MA-CYLINDER MOUNT PIN. 1. 25X7. 56L, 1739B. LT7
-005	122571	A5-5TOP & BOX MOUNT,CC RHT.HOFFMAN,1736.LT7
-006	180970	FP-5TOP BAR FOR 3"SECT 1/2X3,RHT,1737,7000
-007	180754	FP-5HIM FOR BOT 3"SECT RHT.PLA5TIC,1710,7000
-008	122530	A5-4" SECTION,ROT HYD TOWER,30',1709.7000
-009	123161	A5-5TOP BAR W/2 STUDS 3/4-16X2,4" TUBE,1934
-010	180790	FP-5TOP BAR FOR 4"SECT 1/~X3X2-1/2.3419A,7000
-011	180753	FP-5HIM FOR TOP 4"SECT RHT.PLA5TIC,1709.7000
-012	180752	FP-5HIM FOR BTM 4"SECT RHT,PLA5TIC.1709.7000
-013	122522	AS-5"5ECTION W/FRT HDL &5TOP BAR,1705B.7000
-014	122582	AS-T-BAR REAR TWR LOCK PIN,RHT,1738.7000
-015	A2018166	SPRING,PUMP HANDLE 4-1/2" X9/16" 47A16283
-016	180740	FP-T-BAR KEEPER PLATE 1/4X3/4X6.1723,7000
-017	123170	AS-5TOP BAR W/2 STUDS.,5" TUBE,1912,7000
-018	180751	FP-5HIM FOR TOP 5"SECT RHT,PLA5TIC,1705,7000
-019	122550	AS-BOTTOM ROTATING RING W/BRKTS,RHT,1720,7000
-020	180940	MP-BU5HING,PLA5TIC,ROTATION,RHT,1735,7000
-021	177812	FP-SHIM,3/16X2X25.5 UHMW PE,TOWER HAT,7000
-022	122511	AS-8"ROUND TUBE W/SIDE STOP, 30'. 1697A. 7000
-023	180680	MP-TOWER KEEPER BOLT 3/4",5/" 8 TIP,1697,7000
-024	990610	AS-BOLT,TEE,1/2-20NF 4-1/2LG,4309,ZINC PLTD
-025	794550	GREASE FITTING 1/4-28 STRAIGHT,ALEMITE 1641B
-026	181150	FP-PIN, 1X5. 5" W/2 HOLE RHT-PC MOUNT,1760,7000
-027	122503	AS-TOWER BASE,NO PRESS RELIEF,SIDE VALVE.3579
-028	182492	FP-SHIM,TOWER PIVOT, ROADSIDE.1931.7000
-029	182491	FP-SHIM,TOWER PIVOT, CURBSIDE.1930.7000
-030	181181	MP-PIN, 990X11W/2 HOL RHT PIVOT, 1763A,7000
-031	181160	FP-PIN,3/4X3-3/4" W/2 HOLES,RHT-PC,1761,7000
-032	113360	MA-PIN,LOCK SLIDE,WITH R ING, .5X 1.25X5. 75
-033	120220	AS-PIN,LOCK WITH RING,.5x 1.25X6.25. FB, 3690
-034	790710	SPRING,COIL. 1/2HX2. 5"X O.060WIRE,JONES#24
-035	115390	AS-GUARD,HYD.FITTINGS BOTTOM OF TWR,3047,7B



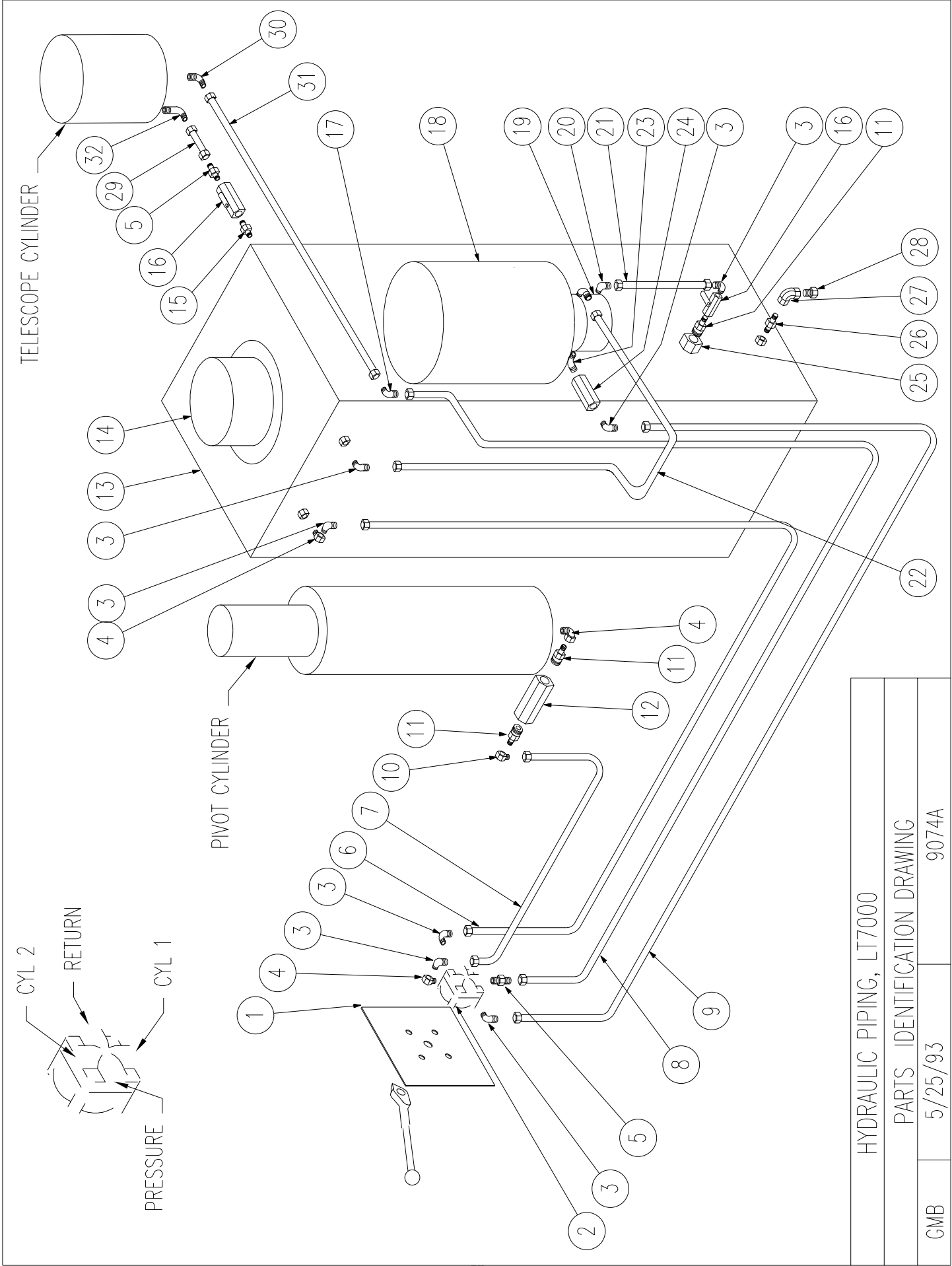
# D R A W I N G # 9072 - L T 7 P I V O T C Y L I N D E R

ITEM #	P A R T #	DESCRIPTION
-001	113030	MA-HYDRAULIC CYL, PIVOT RHT, 1740,7000
-002	122590	AS-CYLINDER FOR PIVOT, HYD CYL, RHT-PC, 1741, 7000
-003	122600	AS-PISTON FOR PIVOT CYL, RHT-PC, 1745, 7000
-004	895200	HYD CYLINDER WEAR BAND, 3.25ODX3IDX.5WX.125TK
-005	895350	O-RING BACK-UP WASHER TFE, 3.25OD, MS28774-336
-006	895340	O-RING 3.25ODX2.875ID, 3/16TK SIZE 2-336N70
-007	181080	MP-ROD SEAL RING, PIVOT CYL, RHT-PC, 1749, 7000
-008	895180	HYD CYLINDER WEAR BAND, 2.25ODX2IDX.5WX.125"TK
-009	895220	HYD CYLINDER ROD SEAL, 2"DIA ROD, P/N U2000
-010	794570	GREASE FITTING, 1/8" PIPE, MALE, SHORT, B610



# DRAWING # 9073 LT7000 TELESCOPING CYLINDER

ITEM #	PART #	DESCRIPTION
-001	122560	MA-HYD CYLASSY,TELE, RHT (RHT-TC), 7000
-002	131000	AS-CYLINDER, FOR TELE HYD CYL , RHT,1724, 7000
-003	895180	HYD CYLINDER WEAR BAND 2.25ODX2IDX. 5W. 125"TK
-004	895260	O-RING BACK-UP WASHER TFE, 2. 250OD, MS2B774-328
-005	895230	O-RING 2.25ODX1.875ID 3/16TK SIZE 2-328N70
-006	131010	AS-MIDDLE-TELE CYL, 2" OD, RHT-TC, 1726, 7000
-007	180900	MP-STOP TUBE,2.25 OPALUM, RHT -TC 1665, 7000
-008	180910	MP-LARGE NUT,2.5" THRD, RHT-TC, 1732, 7000
-009	895220	HYD CYLINDER ROD SEAL 2"DIA ROD, P/N U2000
-010	131022	MP-PISTON W/THREADED END RHT -TC, 3431, 7000
-011	895190	HYD CYLINDER WEAR BAND 1.750DX1.5IDX. 5WX. 125T
-012	895270	O-RING BACK-UP WASHER TFE, I. 750OD, MS28774-324
-013	895240	O-RING 1.750DX1. 3751D 3/16TK SIZE 2-324N70
-014	180920	MP-SMALL NUT,2.0"THRD RHT-TC 1733, 7000
-015	895210	HYD CYLINDER ROD SEAL 1.5 DIA ROD P/N U1500
-016	180930	MP-PISTON EASE PLATE,RHT-TC, 1734, 7000
-017	181230	MP-NUT, PISTON ROD FOOT TELE CYL 1772, 7000



HYDRAULIC PIPING, LT7000

PARTS IDENTIFICATION DRAWING

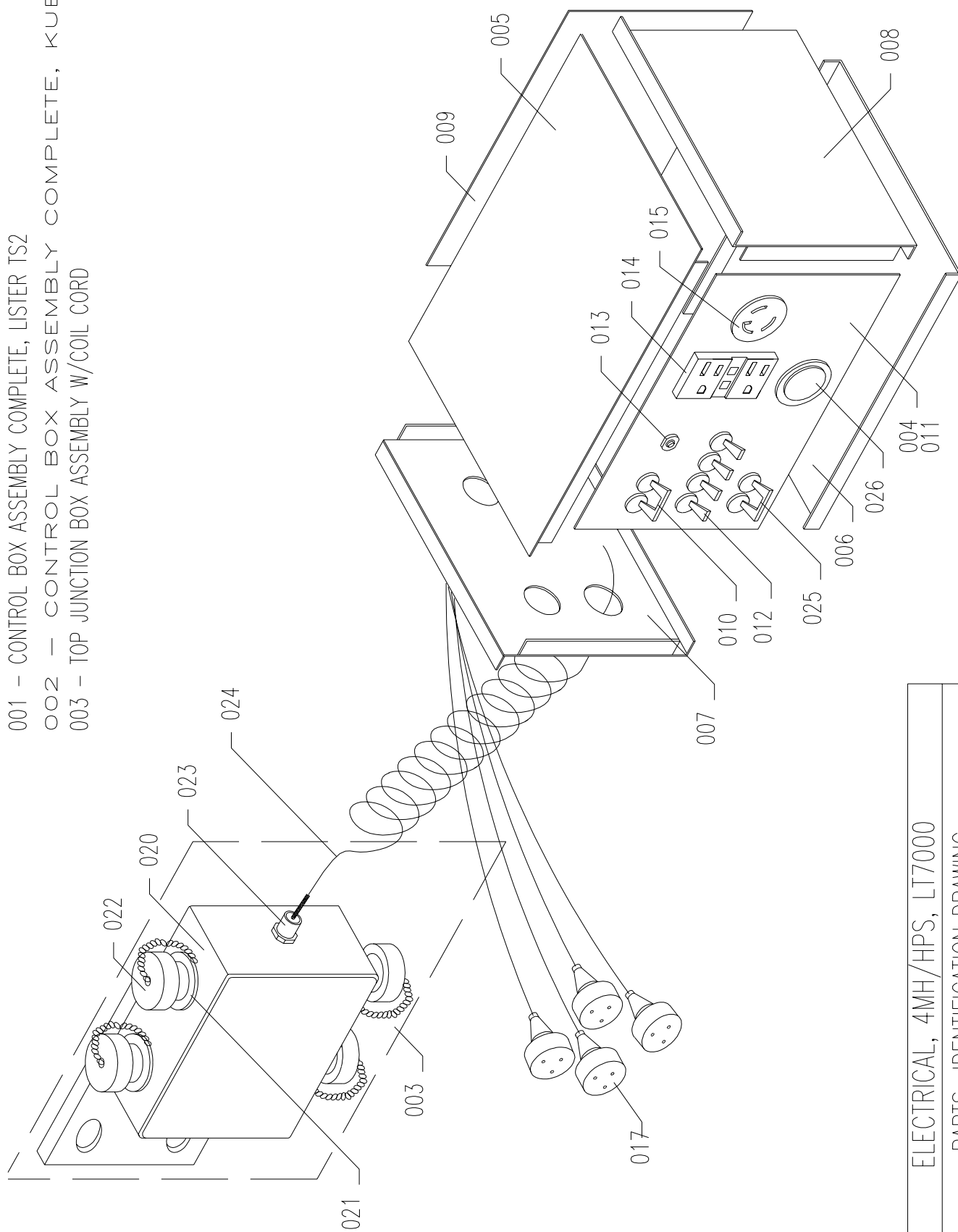
GMB 5/25/93 9074A



## DRAWING # 9074A LT7 HYDRAULIC PIPING

ITEM #	PART #	DESCRIPTION
-001	180433	FP-VALVE MT PLATE WITH DECAL, ALUM, 3470, (NEW) 7
-002	895330	VALVE, 4-WAY, HAND, 3/8" W/PLUNGER, 3/8-4337L-R
-003	897120	HYD FITTING, ELBOW, 90 3/8MT, 3/8MP, 2501-6-6
-004	894800	HYD FITTING, ELBOW, 90 STREET, 3/8NPT, 3/8-CD-S
-005	897990	HYD FITTING STR. CONN, 3/8MTX3/8MP, 6-6-FIX-S
-006	115610	MA-HYD HOSE, 3/8X92. 5LG 2-JIC FEMALE SWIVELS
-007	115830	MA-HYD HOSE, 3/8X38. 5LG 2-JIC FEMALE SWIVELS
-008	115810	MA-HYD HOSE, 3/8X92 5LG 2-.JIC FEMALE SWIVELS
-009	115800	MA-HYD HOSE, 3/8. (62. 5LG 2- JIC FEMALE SWIVELS
-010	898210	HYD FITTING. 90° ELBOW, 3/8MT, 3/8FP, 6-6DTX
-011	897510	HYD FITTING, CONN 1 /2MP X 3/8MP .5404-8-6
-012	891135	VALVE, RESTRICTOR 112" MPT, 3/32HOLE, PM-R-13
-013	122503	AS-TOWER BASE, NO PRESS RELIEF, SIDE VALVE, 3579
-014	895360	FILLER, BREATHER FOR HYD OIL TANK, AB-1010-3SS
-015	895420	HYD FITTING, NIPPLE 3/8PIPE, CLOSE, 3/8-FF-S
-016	895370	VALVE, BALL, 3/8"NPT BRASS, 600PSI, V500P-6
-017	A2018260	HYD FITTING. ELBOW, 90 DEG, BULKHD 6WETX
-018	193381	MOTOR, 1-112HP, 4-BOLT, 115/230V, LEC# 113543
-019	193363	PVMP, HYD, BARNES, 4-BOLT W/REL, 1GPM, 1200PSI
-020	897545	HYD FITTING, ELBOW, 90 3/8MT, 9/16ACR. 6801-6-6
-021	115790	MA-HYD HOSE, 3/8X9. 5LG 2-JIC FEMALE SWIVELS
-022	115780	MA-HYD HOSE, 3/8X40LG 2-JIC FEMALE SWIVELS
-023	898200	HYD FITTING, 90* 3/8MP 9/16 O-RING, BRE6806-6-6
-024	891130	VALVE, CHECK, 3/8NPTF ALKON JC3
-025	6926CO	STRAINER., HYDRAULIC S-5-100 FLOW EASY
-026	895310	PIPE NIPPLE 1 /4 X 2 GALV
-027	894220	PIPE ELBOW 90 DEG 1/4" GALV
-028	894230	PIPE PLUG, 1/4, GALV
-029	115820	MA-HYD HOSE, 3/8X52, 57.5 LG 2- JIC FEMALE SWIVELS
-030	A2018162	HYD FITTING, ELBOW, 90 FA DEG, 1 /4" , 6-CBIX-S
-031	115770	MA-HYD HOSE, 3/8X57, 5LG 2-JIC FEMALE SWIVELS
-032	A2019244	HYD FITTING, ELBOW 90* 1/4PX3/8TUBE, 6CCCBTX

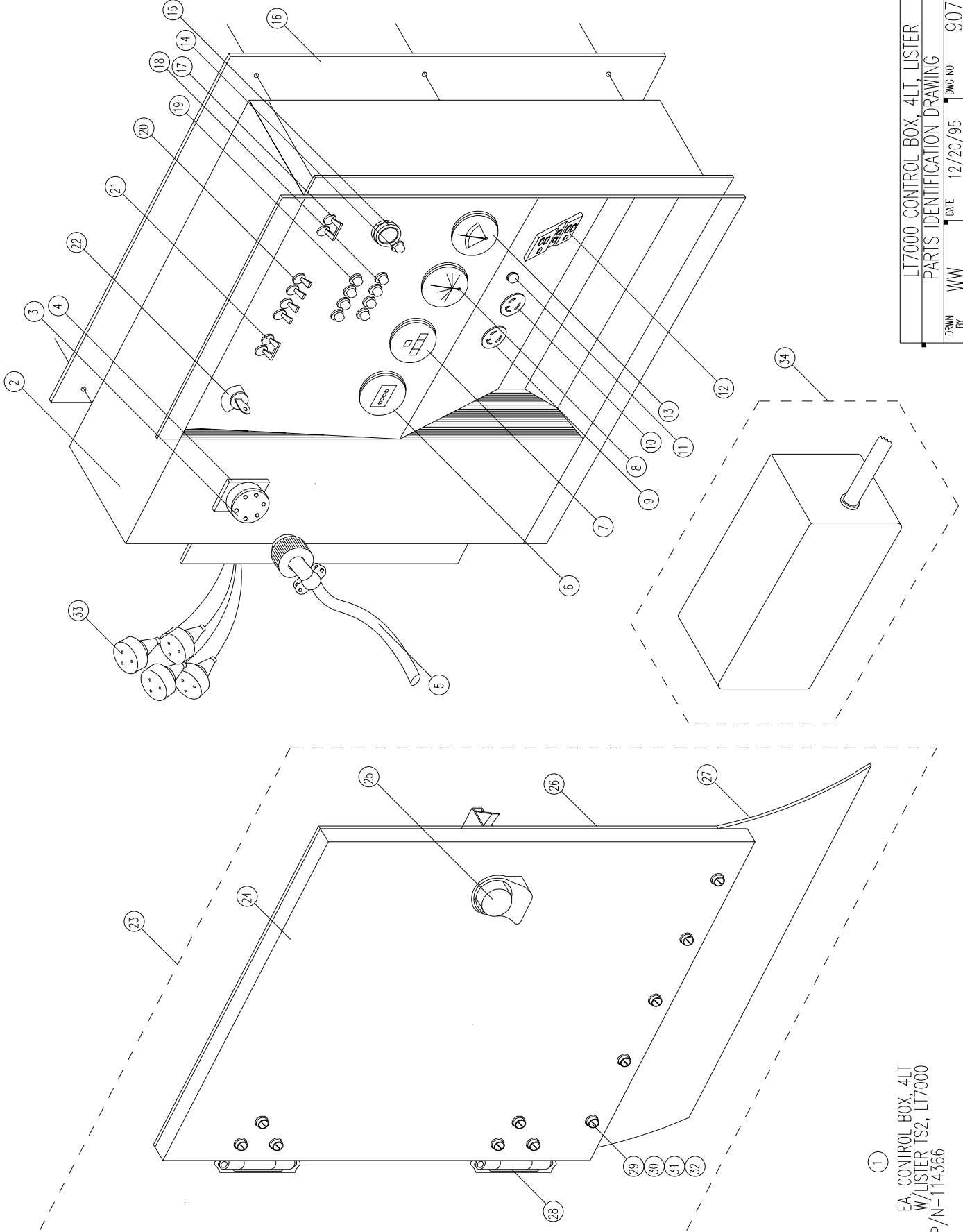
- 001 - CONTROL BOX ASSEMBLY COMPLETE, LISTER TS2
- 002 - CONTROL BOX ASSEMBLY COMPLETE, KUBOTA/
- 003 - TOP JUNCTION BOX ASSEMBLY W/COIL CORD



ELECTRICAL, 4MH/HPS, LT7000		
PARTS IDENTIFICATION DRAWING		
GMB	12/17/96	DWG. NO. 9123A

# DRAWING # 9123A ELECTRICAL, LT7000B

ITEM #	PART #	DESCRIPTION
-001	115930	EA-ELEC.BDX W/C-CORD 4MH,GFI,NBC,30A,7LTA
-002	115290	EA-ELEC.BOX W/C-CORD, 4MH, GFI I ND DC I 30A, 7LTA
-003	112555	EA-JUNCTION BOX, TOP OF TWF\, 4MH/HPS.JOY
-004	186751	FP-CONTROL BOX FACE. 4MH,HPS W/GFI.3744.7B
-005	185390	FP-CONTROL BOX TOP 2501
-006	185370	FP-CONTROL BOX BOTTOM. 2499
-007	186790	FP-CONTROL BOX SIDE, FRONT,2970,7000B
-008	186801	FP-CONTROL BOX 5IDE, REAR W/O HR.MTR ,3745
-009	186730	FP-CONTROL BOX REAR , 2964.7000B
-010	683680	BREAKER, 2P 30A 240V CS AA2-B0-26-630-2D1-C
-012	683870	BREAKER 1P 15A 277VAC CS AA1-BO-24-615-2D1-C
-013	683870	BREAKER MINI 1P 20AW/HEX PAL NUT
-014	684640	RECEPTACLE, 20A, 120V, DUPLEX W/GFI
-015	684450	RECEPTACLE, 30A, 240V T-LOCK,L6-30R,HUB 2620
-017	663890	CORD SET,FEMALE,6FT,5P 16AW G,JOY-5000111-4
-020	121620	AS-BOX WITH MOUNT BARS, W/7 1/2",HUBS.3b26
-021	663870	CONNECTOR,3P,FEMALE RECEPT,JOY-5000109-9
-022	663880	CAP FOR RECEPTICLE, W/CHAIN,JOY-3316582-1
-023	680080	GRIP,STRAIN RELIEF 1/2", KELLUM CQ410
-024	660287	CORD RETRACT/14/7,SOWA 66" COIL, 10&54" TAIL, STD
-025	683830	BREAKER 2P 15A 240V
-026	680240	SWITCH PB IP 800 TAIDI, CSAAPPROVED

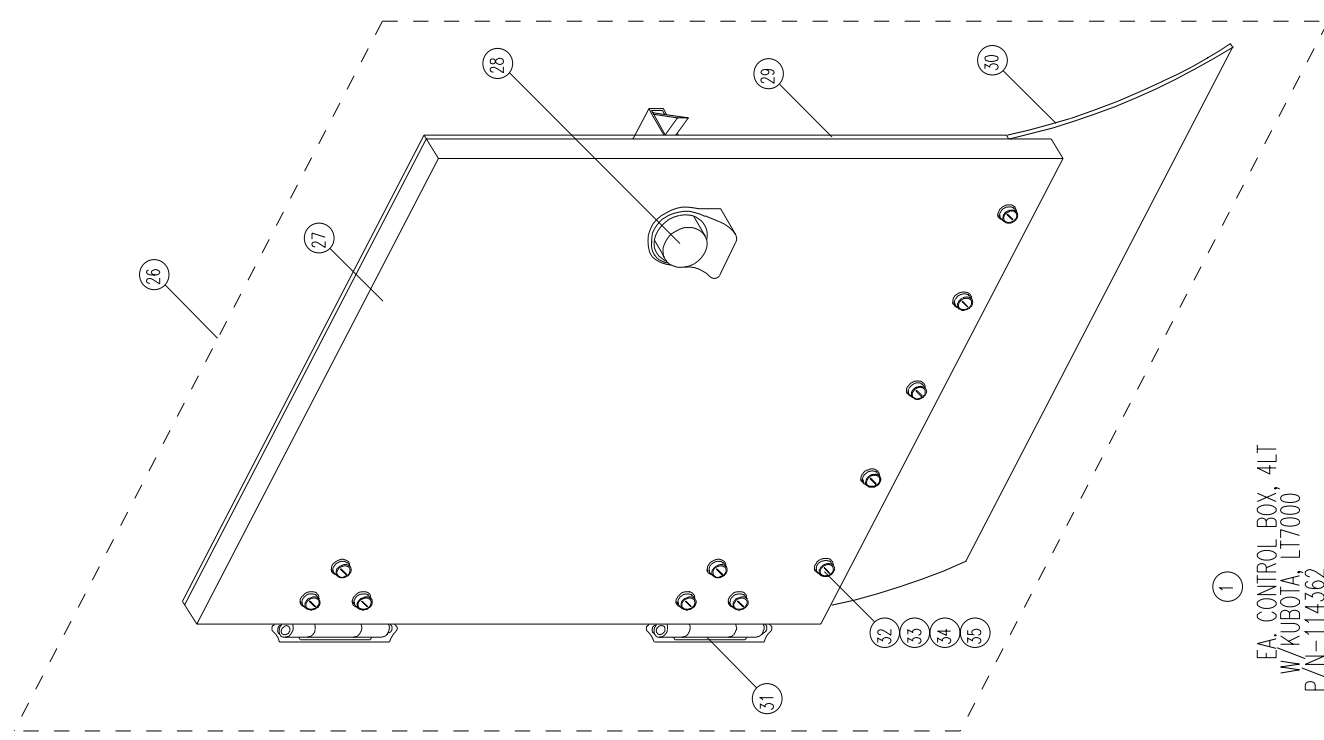
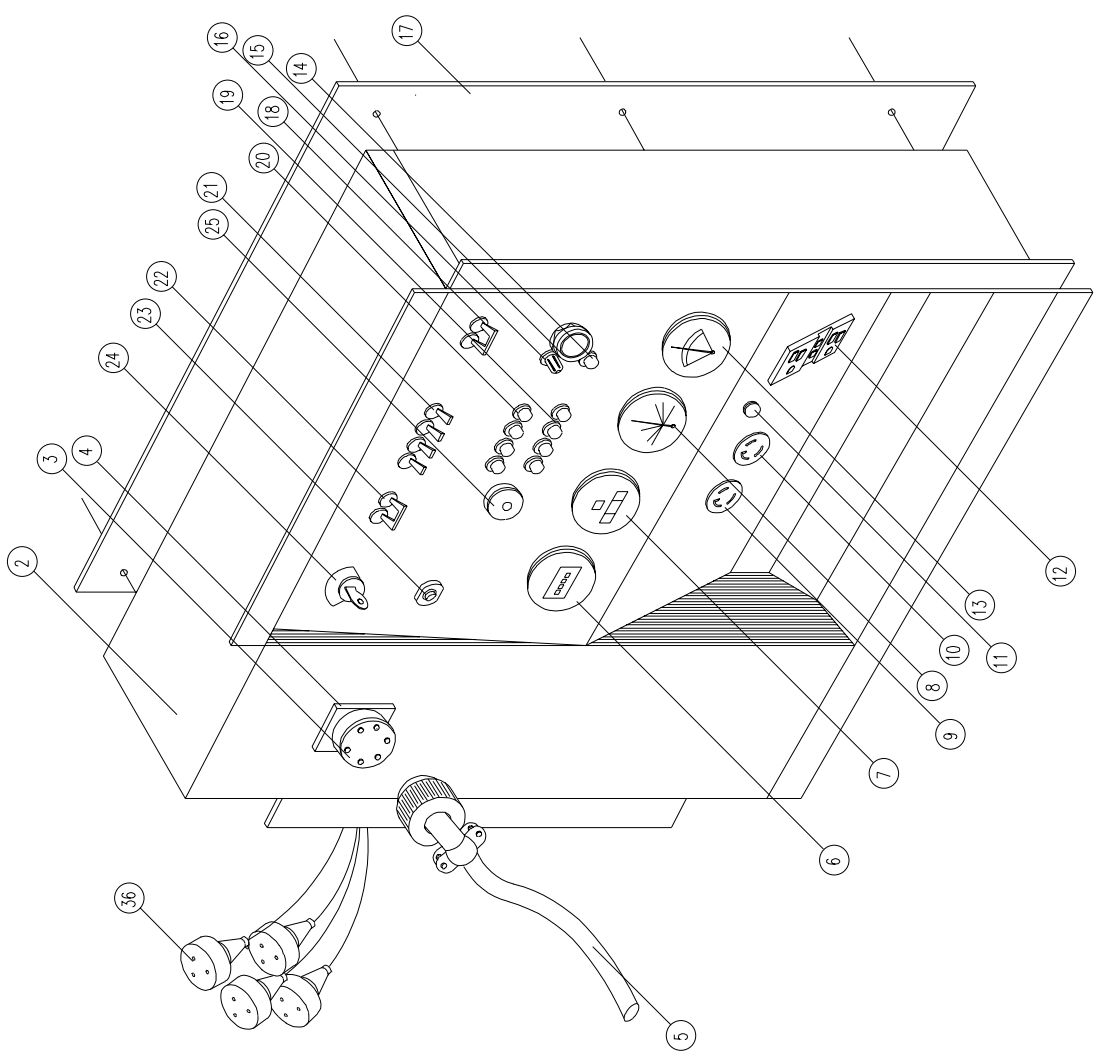


EA, CONTROL BOX, 4LT  
 W/LISTER TS2, LT7000  
 P/N-114366

LT7000 CONTROL BOX, 4LT, LISTER		PARTS IDENTIFICATION DRAWING	
DATE	12/20/95	DWG NO	9075
BY	WW		

# DRAWING # 9075 LT7000C CONTROL BOX W/LISTER TS2

ITEM #	PART #	DESCRIPTION
-001	114365	EA-ELEC. CDC BOX, 6MH EA LISTER, LT7, JOY
-001	114366	EA-ELEC. CDC BOX 4MH W/LISTER TS2, JOY CONN.
-002	123510	AS-EA. BOX, LT7000 W/ LISTER TS2, 4MH, 3699
-002	123515	AS-EL. BOX, LT7000 W/ LISTER TS2, 6MH, HPS
-003	114660	EA-RECEPTACLE, 7-POLE W/18" WIRES, CONT. BOX,LT
-004	684235	GASKET FOR RECEPTACLE 7 POLE, 10-40450-20
-005	663890	CORD SET, FEMALE, 6FT, 5P 16AW G, JOY-5000111-4
-006	685550	FREQUENCY METER 15FH-56, LT5& 7000
-007	260360	HOURLMETER 12V DC HOBBS 8004B
-008	261200	AMMETER, 12V, 10-0-10 DATCON 06111-01
-009	684450	RECEPTACLE, 30A, 240V T-LOCK, L6-30R, HUB 2620
-010	683820	RECEPTACLE, 30A, 120V T-LOCK 3-WIRE HUB 2610
-011	683970	BREAKER MINI 1P 20AW/HEXNUTW/HEX PAL NUT
-012	684640	RECEPTACLE, 20A, 120V DUPLEX W/GFI
-013	440180	OIL PRES, EL. GAUGE LOOP 12V, 06341-01 BLACK
-014	682715	LIGHT, INDICATOR 12V RED
-015	680240	SWITCH PB 1P 800 TAIDI CSAAPPVD
-016	184460	FP-EA. BOX, BACK PANEL 14X18, 2333 , LT5& 7000
-017	683830	BREAKER 2P 15A 240V CS AA2-B0-24-615-2DI-C
-018	114700	EA-INDICATOR LIGHT, BALLAST OUTPUT, MH, LT
-019	114690	EA-INDICATOR LIGHT, BALLAST INPUT, LT5 & 7000
-020	683870	BREAKER 1P 15A 277VAC CS AA1 BU-24-615-2DI-C
-021	683680	BREAKER 2P 30-A 240VAC CS AA2 B0-26-630-2DI-C
-022	684680	SWITCH, IGNITION, LEVER OPERATED, P/N 31-607

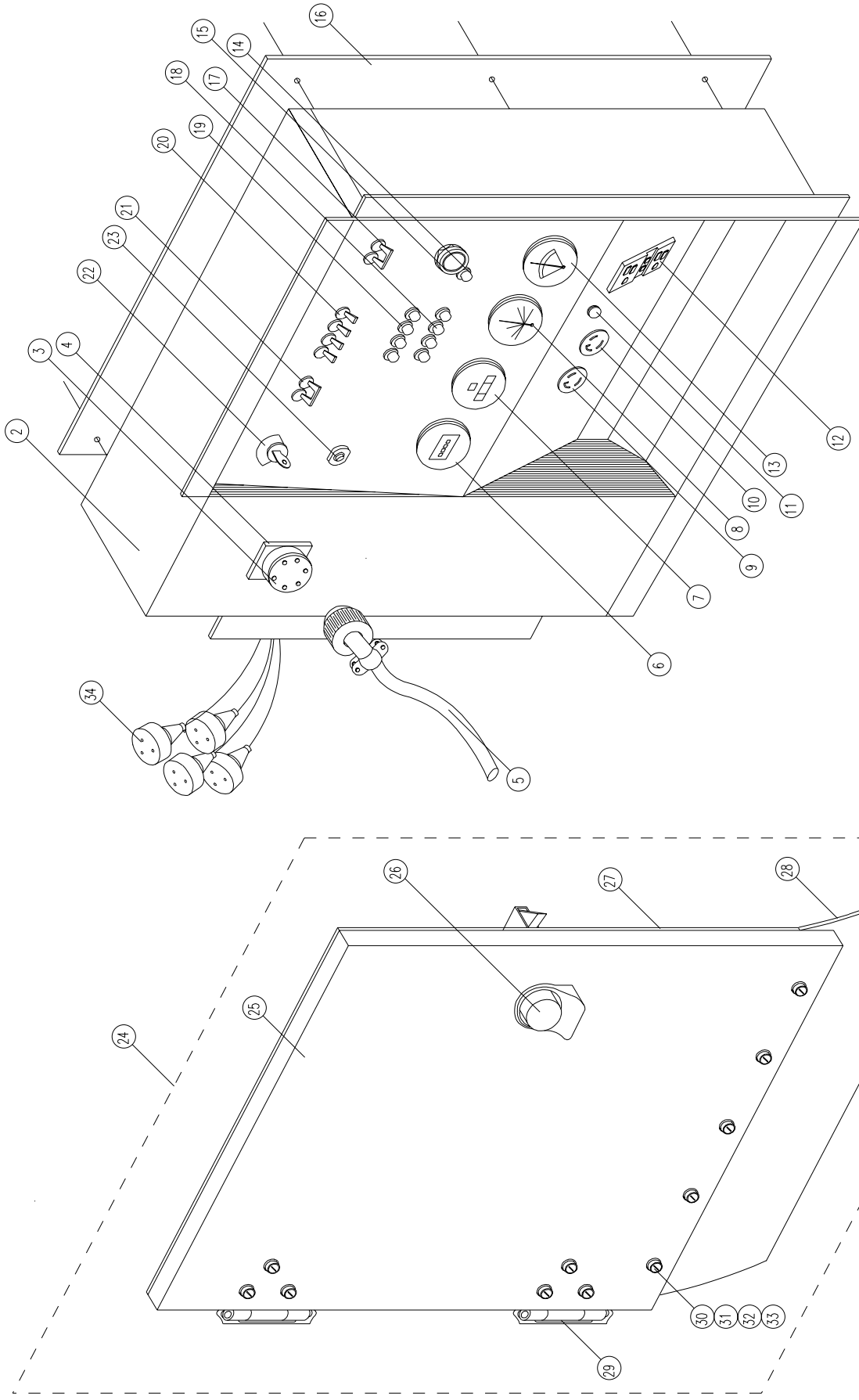


1  
EA, CONTROL BOX, 4LT  
W/KUBOTA, LT7000  
P/N-114362

LT7000 CONTROL BOX, 4LT, KUBOTA			
PARTS IDENTIFICATION DRAWING			
DRWN	DATE	DWG NO	9076
BY	12/20/95	WW	

# DRAWING # 9076 LT7000C CONTROL BOX W/KUBOTA

ITEM #	PART #	DESCRIPTION
-001	114362	EA-ELEC. CDC BOX, 4MH/HPS, KUBOTA NO-DC, LT7
-002	113511	AS-EA. BOX, LT7 W/KUBOTA D950, 4MH, 2444
-003	114660	EA-RECEPTACLE, 7-POLE W/18"WIRES.CONT.BOX.LT
-004	684235	GASKET FOR RECEPTACLE 7 POLE, 10-40450-20
-005	663890	CORD SET, FEMALE, 6FT, 5P, 16AW G.JOY-5000111-4
-006	655500	FREQUENCY METER, HOBBS 15FH-56, LT5&7
-007	260360	HOURLMETER 12V DC HOBBS 80048
-008	440140	AMMETER, 12V -30 0 +30, DATCON
-009	684450	RECEPTACLE, 30A, 240V T-LOCK, L6-30R.HUB
-010	683820	RECEPTACLE, 30A, 120V T-LOCK, 3-WIRE HUB 2610
-011	683970	BREAKER MINI IP 20AW/HEX PAL NUT
-012	684640	RECEPTACLE, 20A, 120V DUPLEX W/GFI
-013	440180	OIL PRES. EL. GAUGE 100P 12V , 06341-01 BLACK
-014	682715	LIGHT, INDICATOR 12V, RED
-015	680240	SWITCH PB IP 800 TAIDI CSAAPPVD
-016	682550	FUSE HOLDER PANEL MT LF 342004PA CSAAPPVD
-017	184460	FP-EA.BOX, BACK PANEL 14X18.2333.LT5&7000
-018	683830	BREAKER 2P 15A 240V CS AA2-B0-24-651-2DI-C
-019	114700	EA-INDICATOR LIGHT, BALLAST OUT, 440V,LT
-020	114690	EA-INDICATOR LIGHT, BALLAST INPUT,LT5&7000
-021	683870	BREAKER 1P 15A 277VAC CS AA1-B0-24-615-2DI-C
-022	683680	BREAKER 2P 30A 240V CS AA2-B0-26-630-2DI-C
-023	741290	RELAY FOR ENGINE SHUTDOWN, 12V,W/PB, 518APH
-024	839700	KUBOTA 66706-~5120 STARTER SWITCH
-025	865090	KUBOTA 15531-65950 GLOW PLUG, INDICATOR



1  
EA, CONTROL BOX, 4LT  
W/ALPHA LPA3, LT7000  
P/N-114368

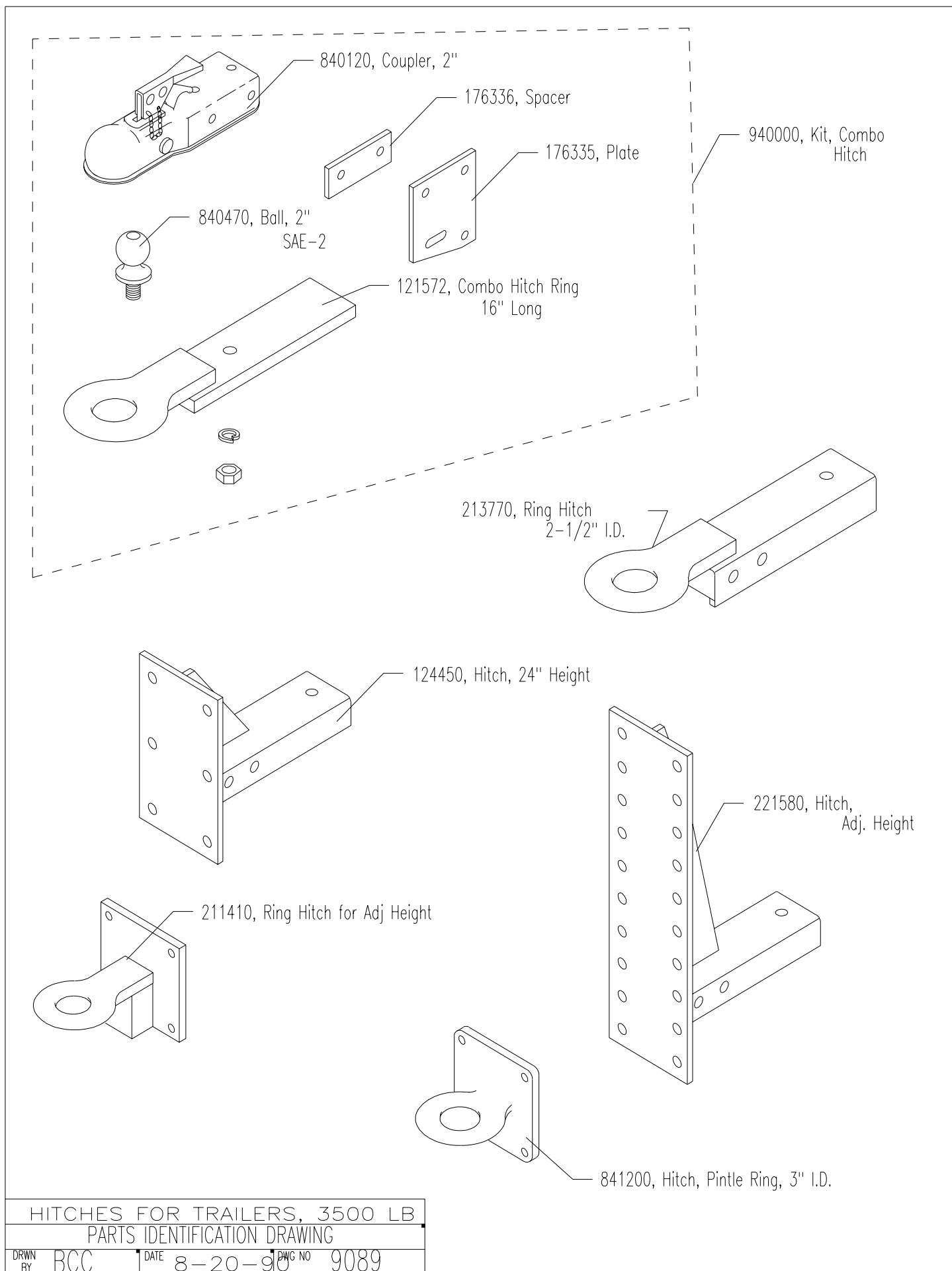
LT7000 CONTROL BOX, 4LT, ALPHA  
PARTS IDENTIFICATION DRAWING

DATE 12/20/95 DWG NO 9528  
BY WW



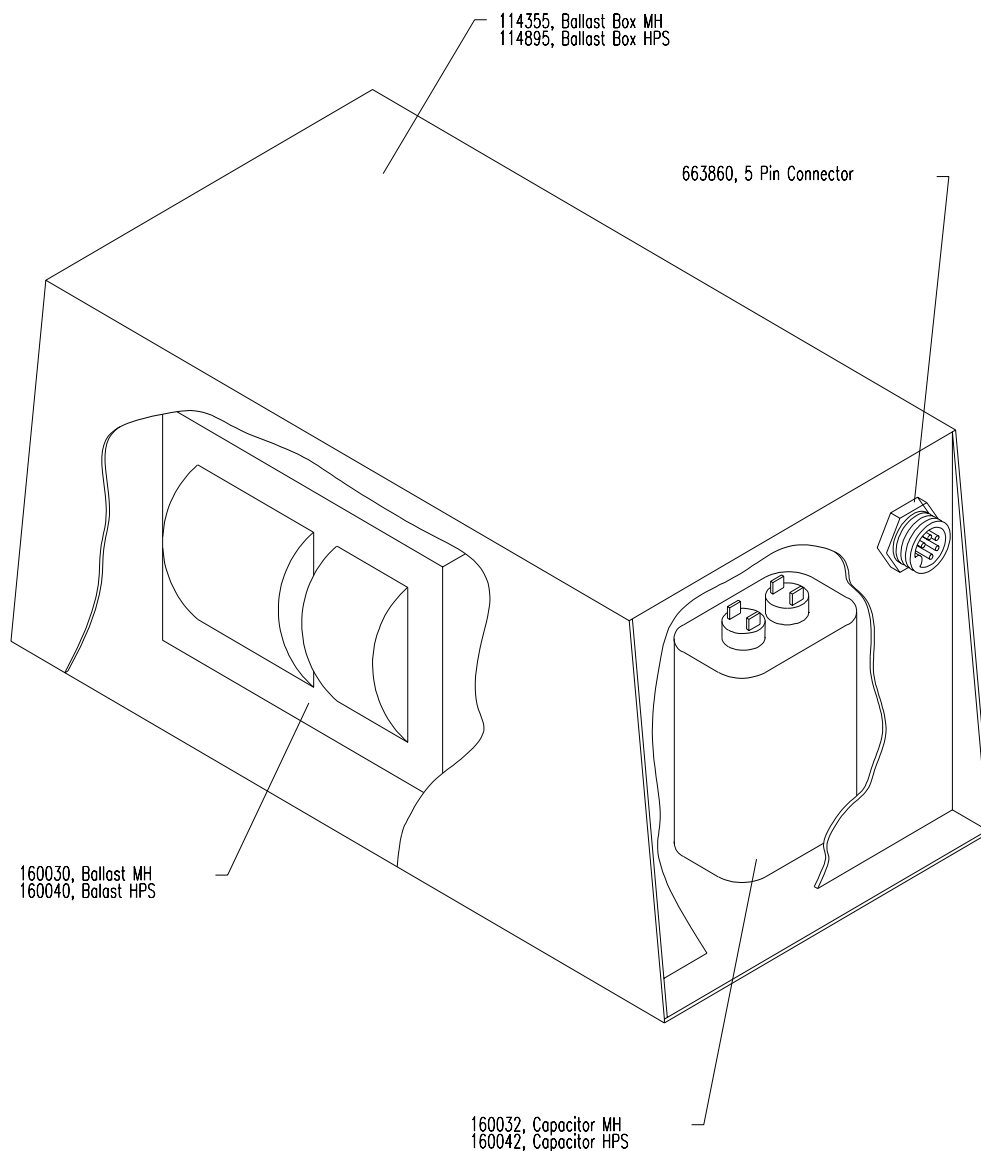
# DRAWING # 9528 LT7000 CONTROL BOX W/ALPHA

ITEM #	PART #	DESCRIPTION
-001	114368	EA-ELECT. CDC BOX.4MHI HPS.ALPHA.NO DC.7LTA
-002	123~03	AS-EL. BOX.LT7000 WI ALPHA LPA3.4MH.4255
-003	114660	EA-RECEPTACLE.7-POLE W/18.'WIRES. CONT. BOX. LT
-004	684235	GASKET FOR RECEPTACLE 7 POLE.10-404~0-20
-005	663890	CORD SET.FEMALE.6FT.5P 16AW G.JOY-5000111-4
-006	685550	FREQUENCY METER 15FH-56. LT5&7000
-007	260360	HOURLMETER 12V DC HOBBS 80048
-008	440140	AMMETER. 12V.-30 0 +30. DATCON
-009	684450	RECEPTACLE.30A.240V T-LOCK.L6-30R.HUB 2620
-010	683820	RECEPTACLE.30A.120V T-LOCK 3-WIRE HUB 2610
-011	683970	BREAKER MINI 1P 20AW/HEX PAL NUT
-012	684640	RECEPTACLE.20A.120V DUPLEX W/GFI
-013	440180	OIL PRES. EL. GAUGE LOOP 12V. 06341-01 BLACK
-014	682715	LIGHT, INDICATOR 12V RED
-015	680240	SWITCH PB 1P 800 TAIDI CSAAPPVD
-016	184460	FP-EA. BOX, BACK PANEL 14X18,2333.LT5&7000
-017	683830	BREAKER 2P 15 240VCS AA2-BO-24-61S-2D1-C
-018	114700	EA-INDICATOR LIGHT.BALLAST OUT.440VLT
-019	114690	EA-INDICATOR LIGHT, BALLAST INPUT LT5&7000
-020	683870	BREAKER 1P 15A 277VAC CS AA1-BO-24-615-2D1-C
-021	683680	BREAKER 2P 30-A 240VAC CS AA2 B0-26-630-2DI-C
-022	684680	SWITCH, IGNITION, LEVER OPERATED, P/N 31-607
-023	R660010	SWITCH, PUSH-BUTTON, W/BOOT, POLLACK 24-360



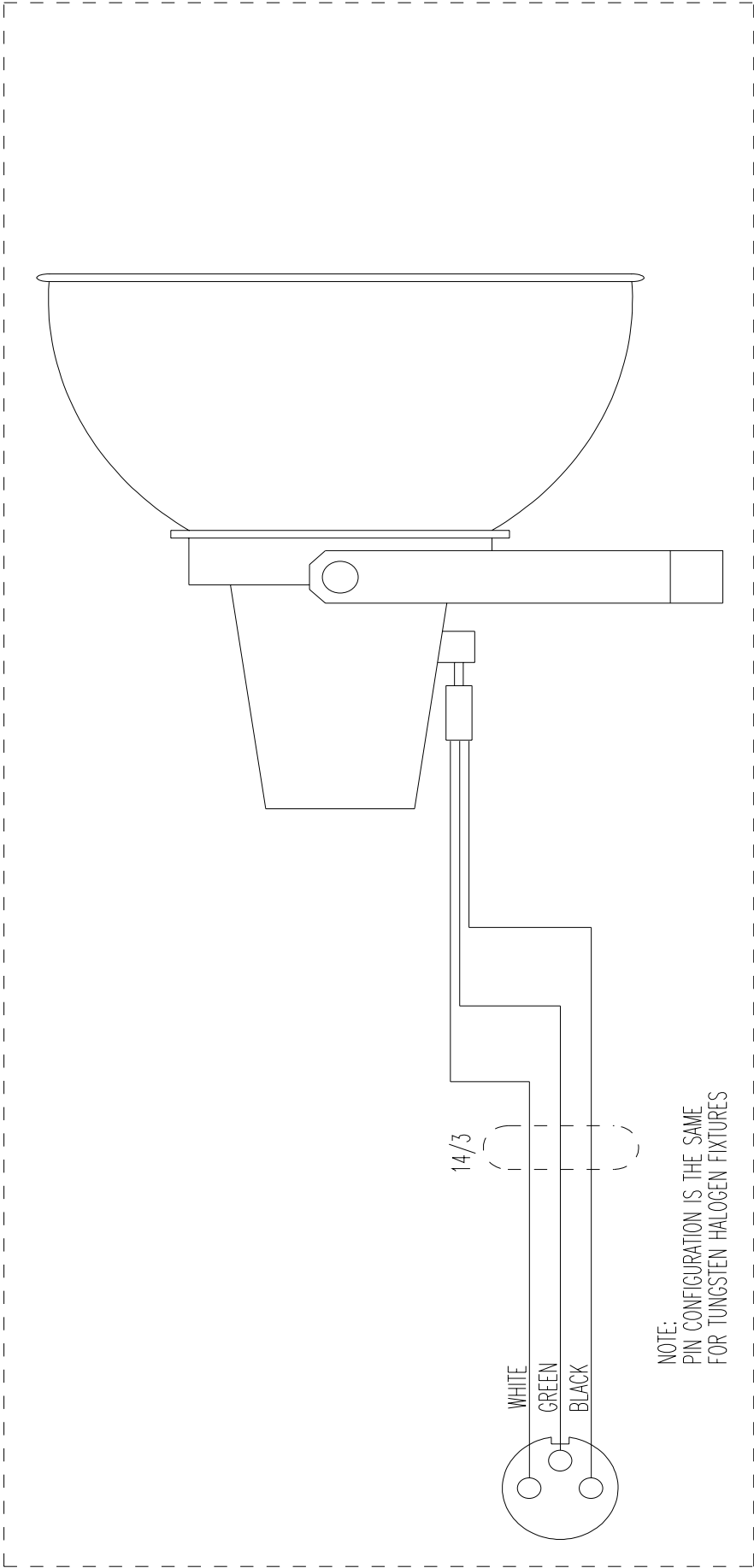


Model:	LIGHT TOWER	
Title:	Ballast	



New FixtureAssembly Here

PART # WD2985		DWG.# 2985A
ITEM#	PART#	DESCRIPTION
		#REQ



NOTE:  
PIN CONFIGURATION IS THE SAME  
FOR TUNGSTEN HALOGEN FIXTURES

A	3/15/00	ECO #	CHANGE	
REV.	DATE	ECO #		
TOLERANCES UNLESS OTHERWISE SPECIFIED:				
Fractions 1/16				
(±=.030 .XXX=Decimals .XX=±.010				
.XXX=±.005				
Degrees 1/2Degrees				
REMOVE ALL BURRS & SHARP EDGES				
MATERIAL		W/JOY CONNECTOR		BORDER "B"
MAT P/N		USAGE	DR BY CWWP BY	SCALE NONE
PLOT 4/30/91		DATE 4/30/91	PART# WD2985	DWG.# 2985A

CIRCUIT

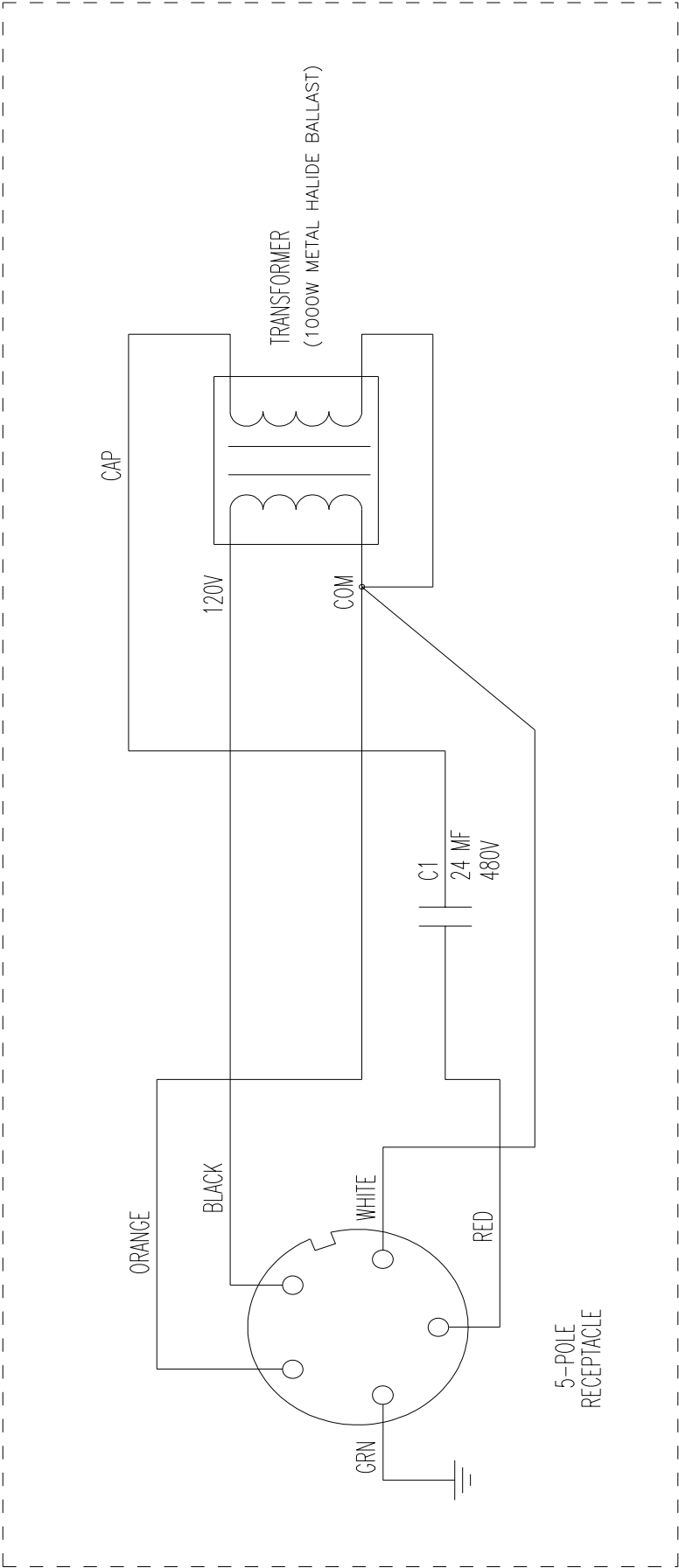
WHITE  
BLACK  
GREEN

COMMON FROM BALLAST  
HOT FROM BALLAST (LIVE)  
GROUND (EARTH)

**Terex-amida**  
590 HUEY Rd, ROCK HILL, S.C.  
Ph. (803) 324-3011 FAX 366-1101

WIRING DIAGRAM, MH OR HPS FIXTURE

PART #		DWG. #
ITEM #	PART #	DESCRIPTION
		#REQ

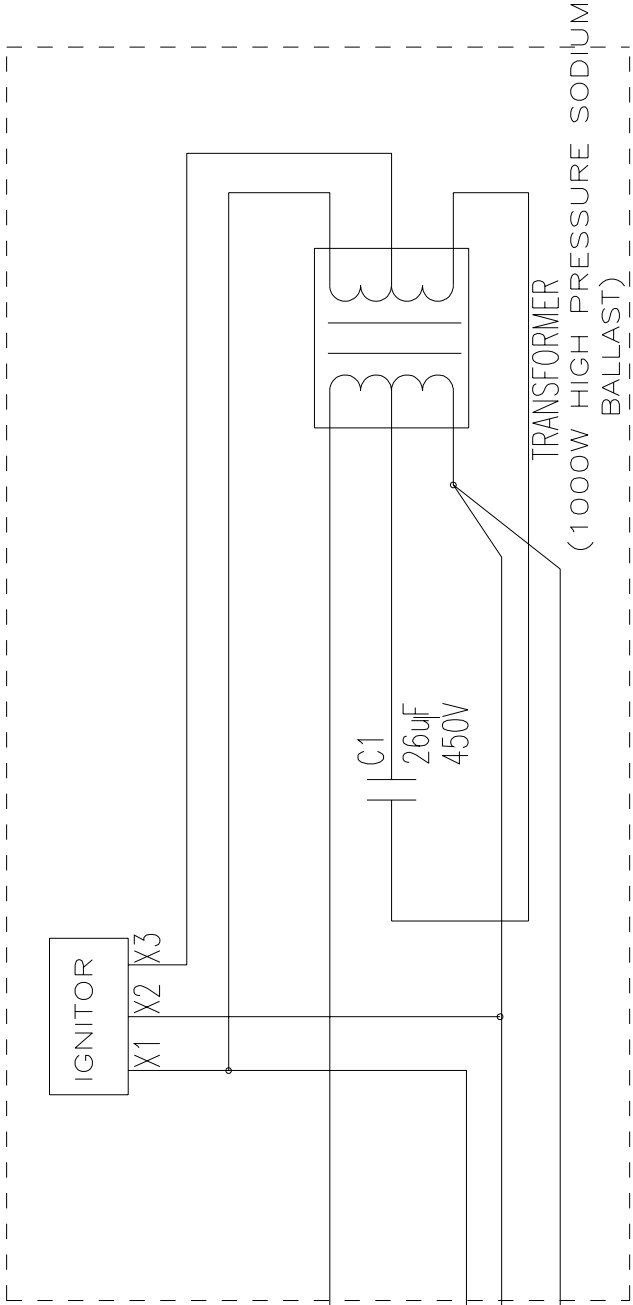


COLOR	CIRCUIT
BLACK	INPUT 120V
WHITE	INPUT COMMON
RED	LAMP HOT
ORANGE	LAMP COMMON
GREEN	GROUND

REV.	DATE	ECO #	CHANGE
TOLERANCES UNLESS OTHERWISE SPECIFIED: Decimals .XX=±.030 .XXX=Decimals .XX=±.010 Fractions 1/16 .XXX=±.005 Degrees ±1/2Degrees REMOVE ALL BURRS & SHARP EDGES			
MATERIAL			BORDER "B"
MAT P/N		USAGE	DR BY APP BY SCALE
PLOT		DATE	PART # DWG. #

**Terex-amida**  
 590 HUEY Rd, ROCK HILL, S.C.  
 Ph. (803) 324-3011 FAX 366-1101

PART#		DWG.#
ITEM#	PART#	DESCRIPTION
		#REQ

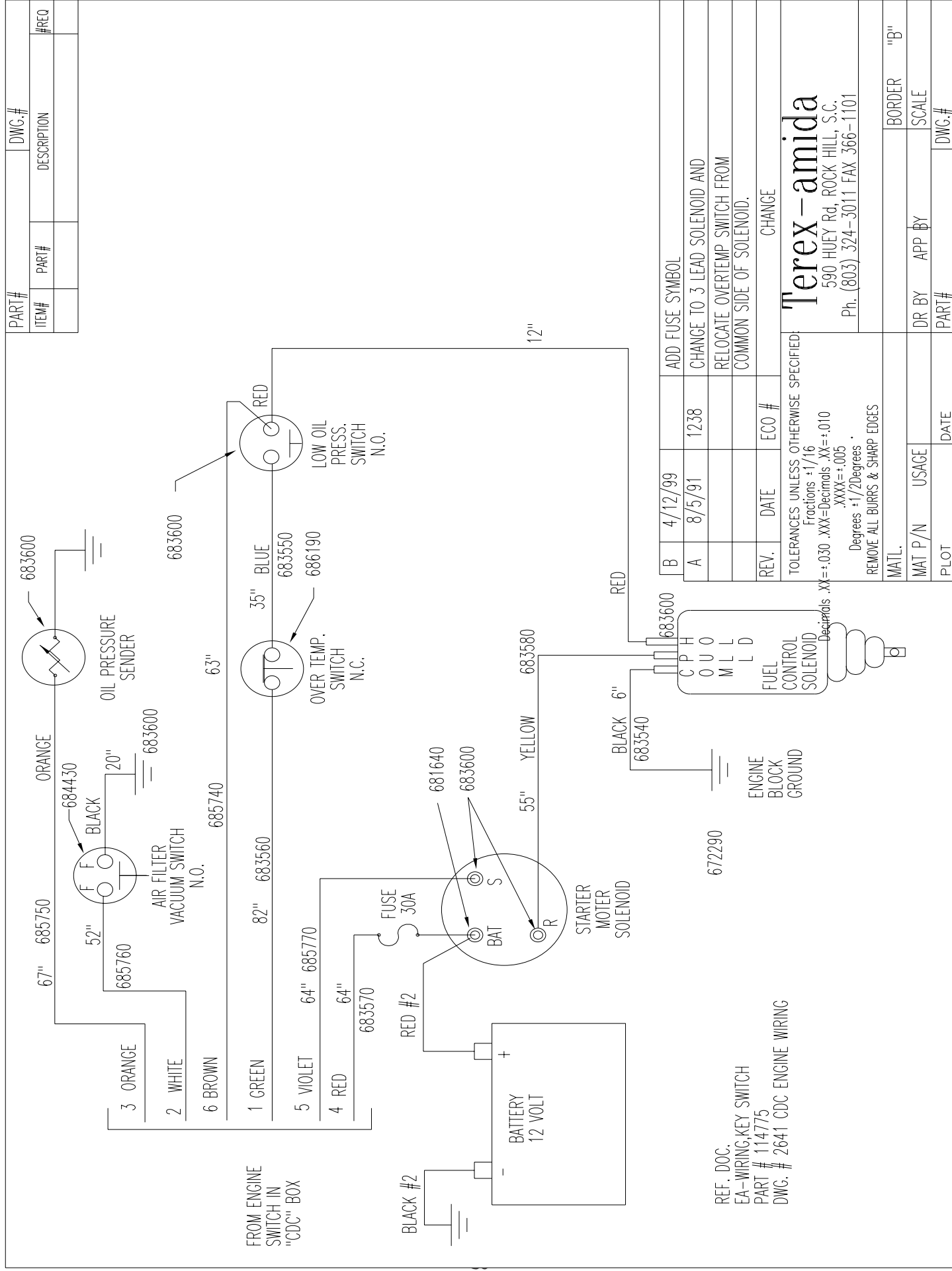


5-POLE  
RECEPTACLE

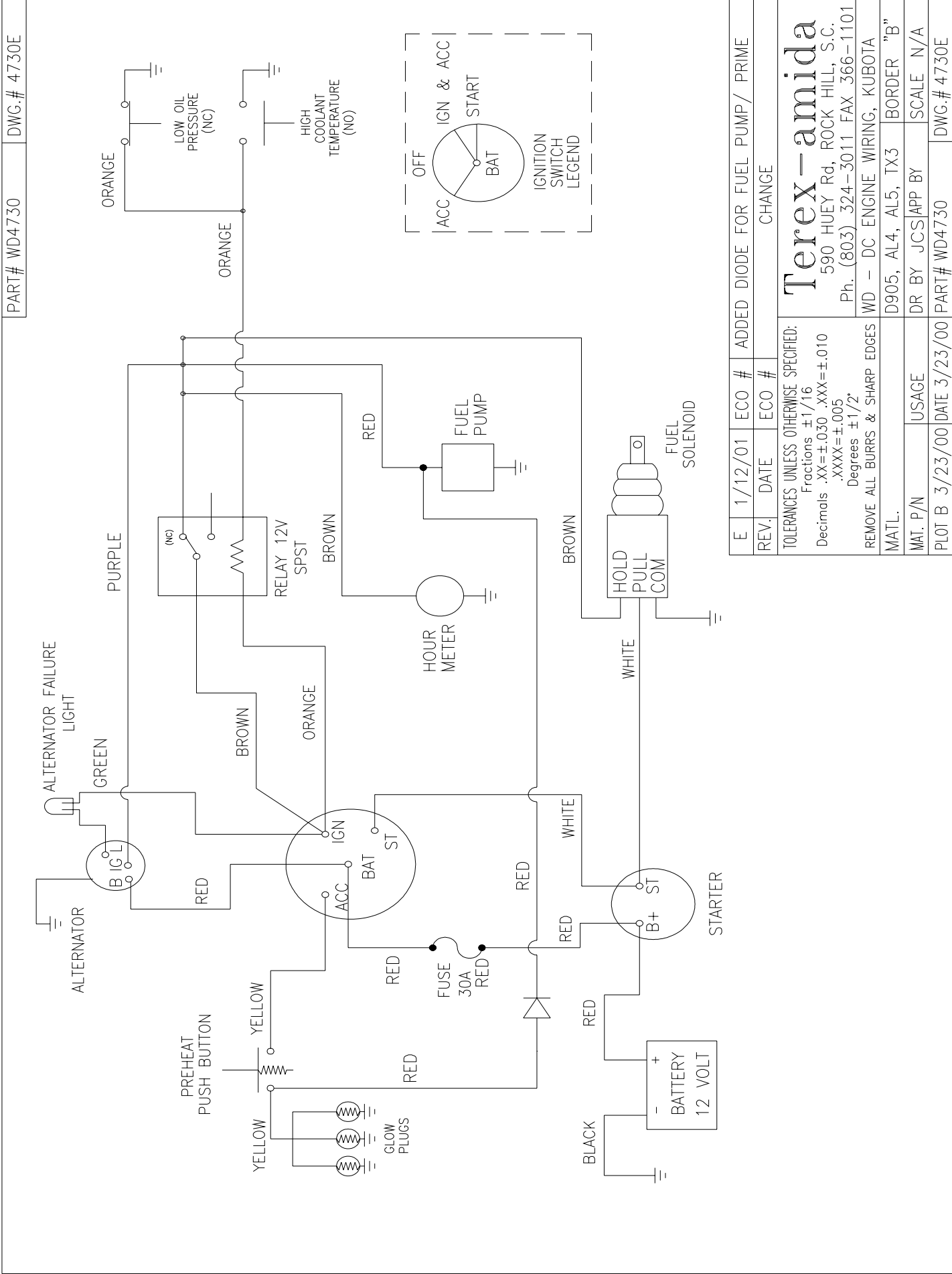
COLOR      CIRCUIT

- BLACK      INPUT 120V
- WHITE     INPUT COMMON
- RED        LAMP HOT
- ORANGE    LAMP COMMON
- GREEN     GROUND

REV.	DATE	ECO #	CHANGE		
TOLERANCES UNLESS OTHERWISE SPECIFIED:			Terex-amida		
Fractions ±1/16			590 HUEY Rd, ROCK HILL, S.C.		
XX=.030 .XXX=Decimals .XX=±.010			Ph. (803) 324-3011 FAX 366-1101		
.XXX=±.005					
Degrees ±1/2Degrees					
REMOVE ALL BURRS & SHARP EDGES					
MATL.			BORDER		"A"
MAT P/N	USAGE		DR BY	APP BY	SCALE
PLOT	DATE		PART#	DWG.#	





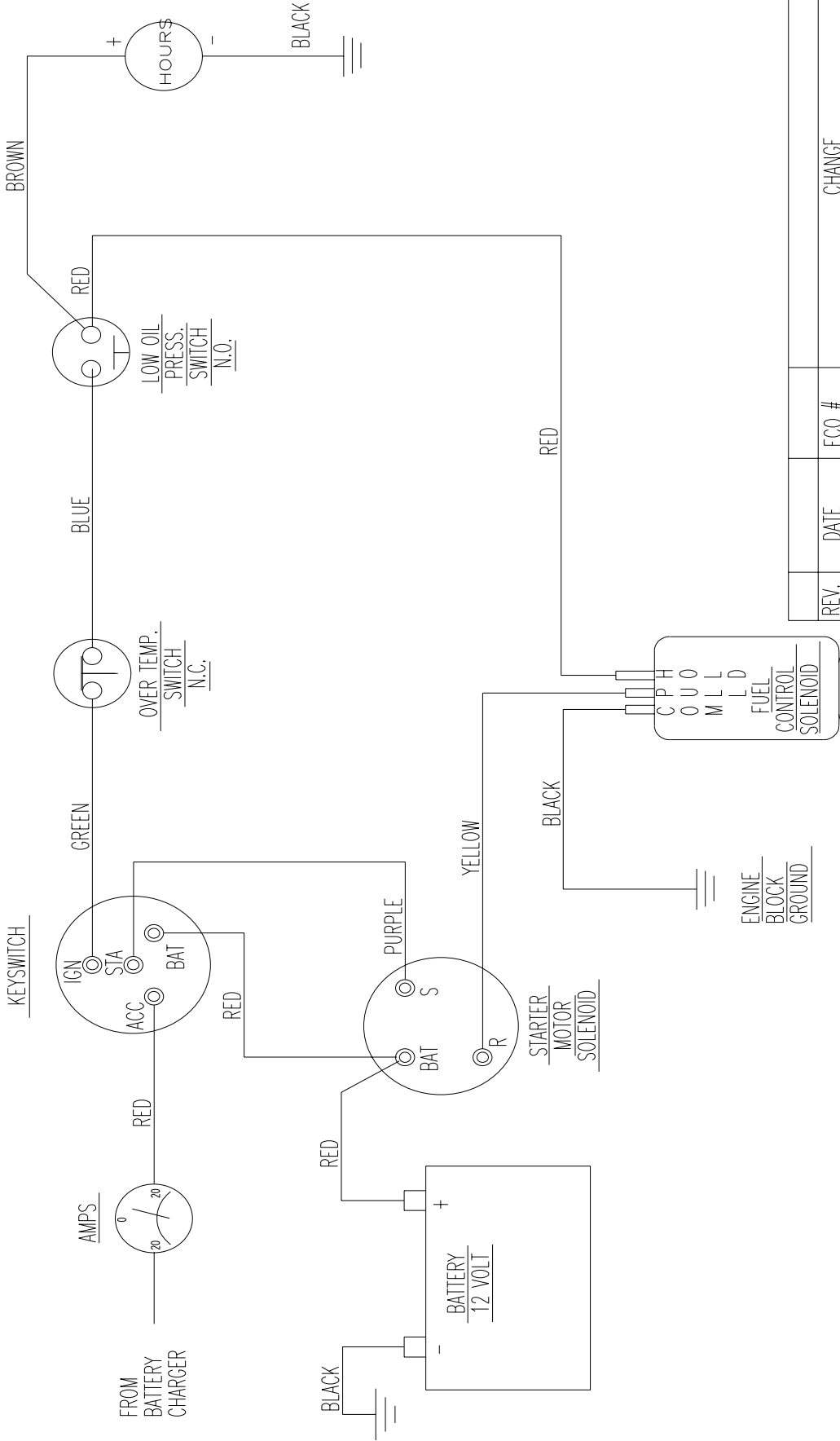








PART #		DWG. #
ITEM #	PART #	DESCRIPTION
		#REQ

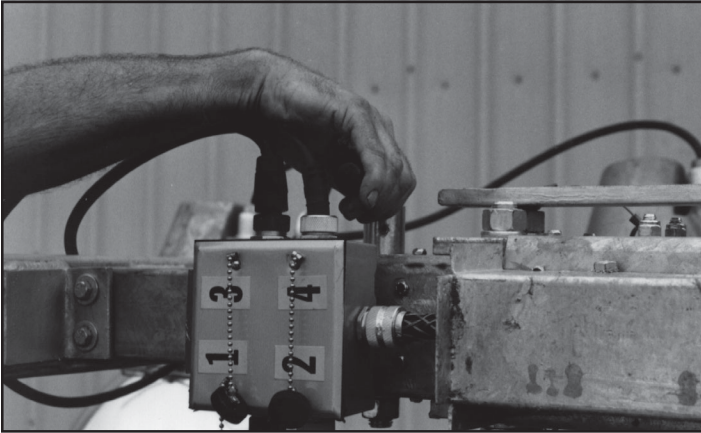


REV.	DATE	ECO #	CHANGE
TOLERANCES UNLESS OTHERWISE SPECIFIED: Fractions ±1/16 Decimals .XX=Decimals .XX=±.010 Decimals .XXX=Decimals .XXX=±.005 Degrees ±1/2Degrees REMOVE ALL BURRS & SHARP EDGES			
MATERIAL: <b>amida INDUSTRIES, INC.</b> 590 HUEY Rd, ROCK HILL, S.C. Ph. (803) 324-3011 FAX 366-1101			
MATERIAL: <b>amida INDUSTRIES, INC.</b> 590 HUEY Rd, ROCK HILL, S.C. Ph. (803) 324-3011 FAX 366-1101			BORDER "B"
MATERIAL: <b>amida INDUSTRIES, INC.</b> 590 HUEY Rd, ROCK HILL, S.C. Ph. (803) 324-3011 FAX 366-1101			DR BY APP BY SCALE
PLOT			PART # DWG. #

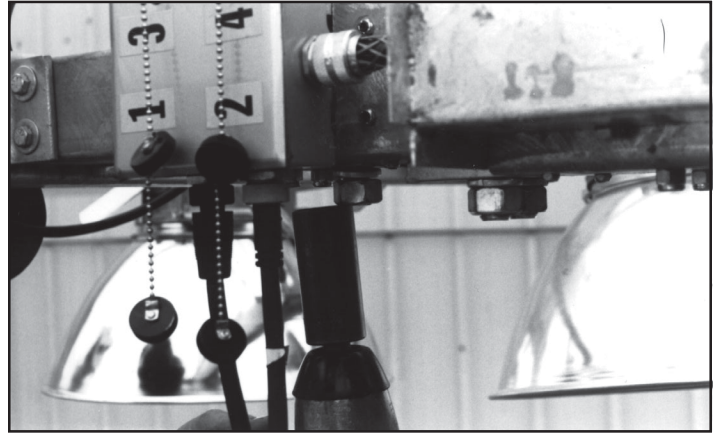
REF. DOC.  
EA-WIRING, KEY SWITCH/LISTER ENGINE  
PART # 115910



## REPLACEMENT OF HYDRAULIC TOWER CYLINDER SEALS



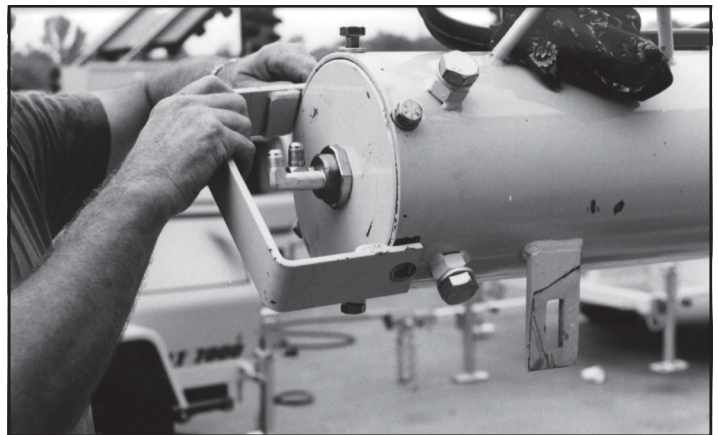
1. To begin the seal replacement, be sure that the tower is lowered onto the cradle. there is no need to remove the tower from the machine. Next locate the tower locking pin, just slide a screwdriver, or similar object into pin hole to hold securely.



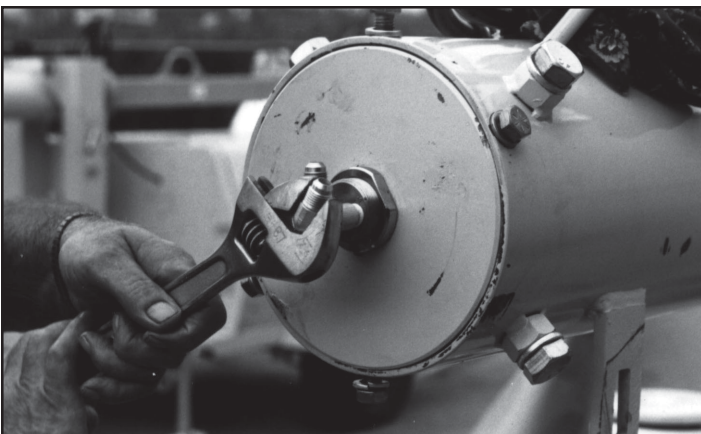
2. After securing the locking pin, remove the nut from the underside. This will allow you to pull the pin so that the cylinder can be removed, as described later.



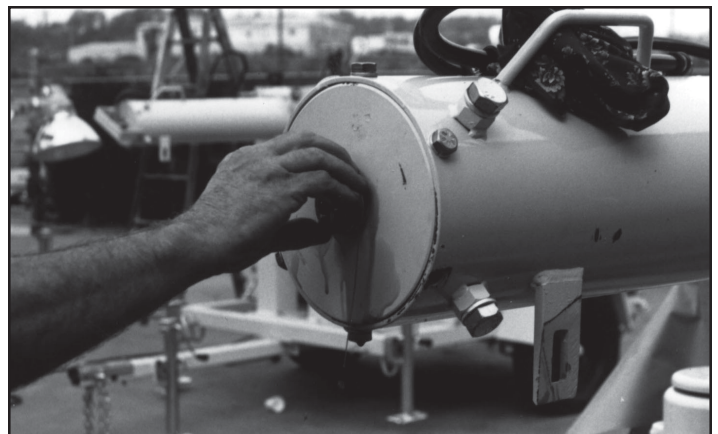
3. Go to the base of the tower and remove the hydraulic lines that supply the tower cylinder.



4. Next remove the two bolts that hold the guard and remove it.



5. Remove the two fittings at the base of the cylinder. These are different lengths to allow for ease of removal.



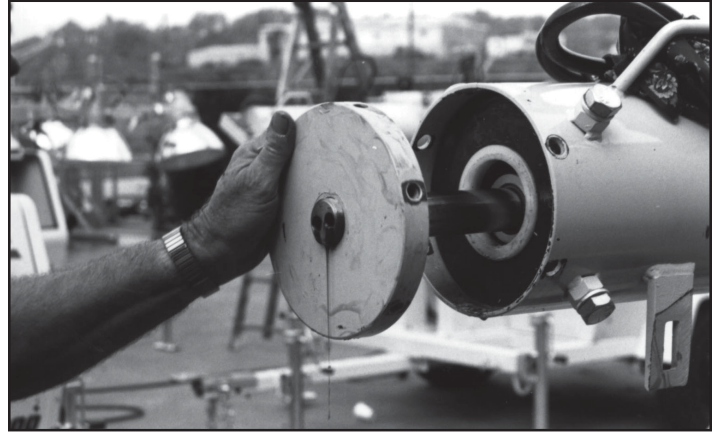
6. After removing the fittings, loosen the cylinder locking nut but don't remove it yet!



## REPLACEMENT OF HYDRAULIC TOWER CYLINDER SEALS (CON'T)



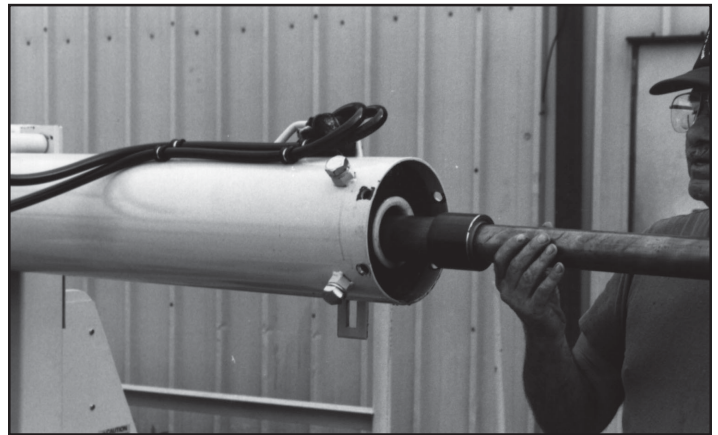
7. Remove the bolts around the piston base ring, and using a flat screwdriver slip the base from the tower. (This is where the cylinder locking nut will help you to pull the cylinder from the mast of the tower).



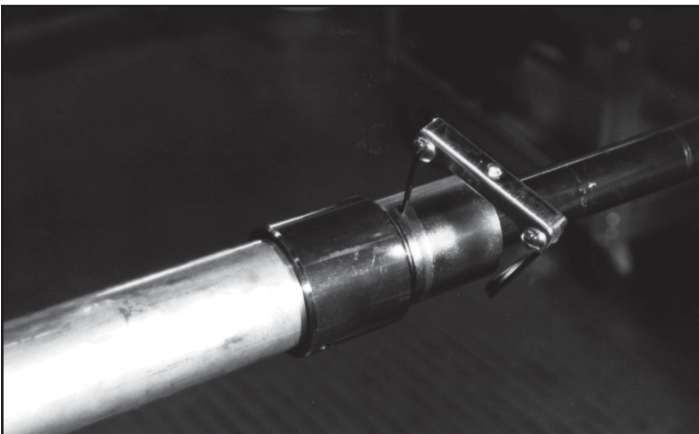
8. Remove the cylinder locking nut. When the piston base ring is free from the base several inches, the base ring can be removed by turning counter-clockwise.



9. Plugging the fluid feed holes in the end of the cylinder will help to eliminate the possibility of hydraulic fluid spraying.



10. Slowly remove the cylinder by sliding it through the mast, and guiding the seal lock nut in each section past the plastic bushing in the rotation ring.



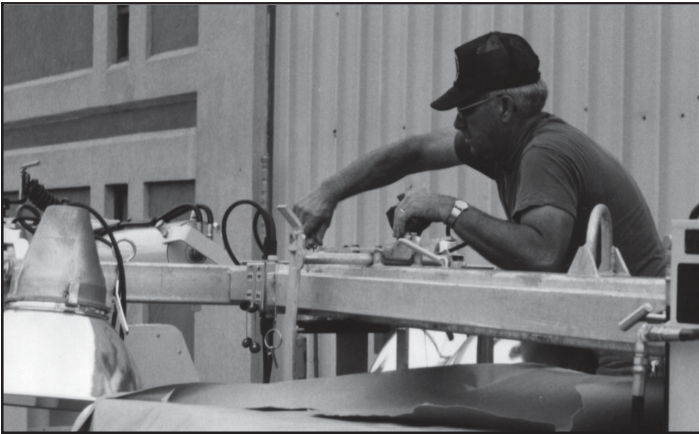
11. Lay the cylinder on a clean work surface to replace the seals. To remove the seals, loosen the set screw in the locking nut.



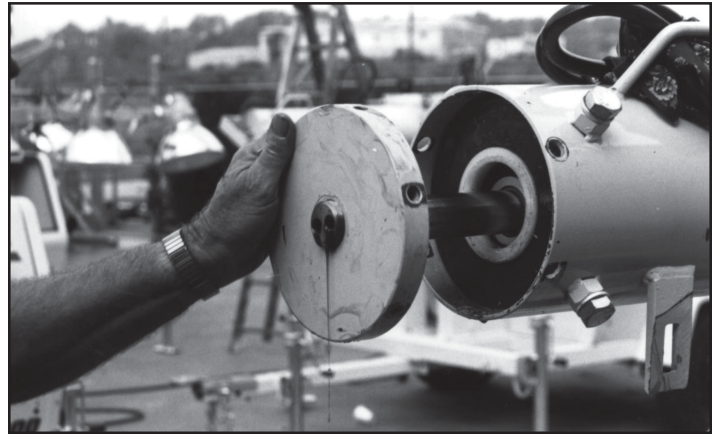
12. Unscrew the locking nut. You should be able to do this without the use of a pipe wrench, however, if this is not possible the cylinder should be wrapped to avoid damage to the cylinder.



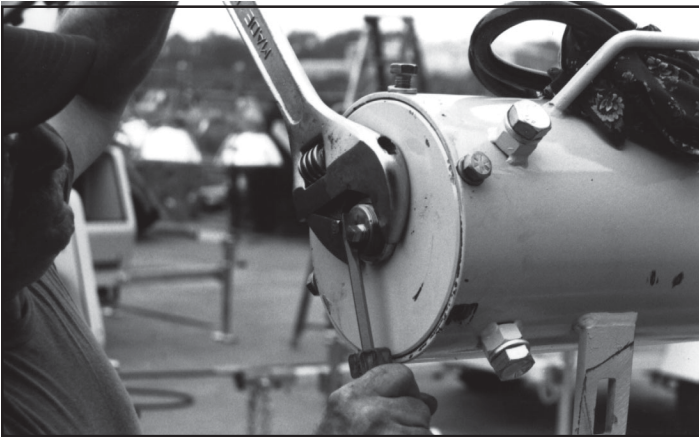
## REPLACEMENT OF HYDRAULIC TOWER CYLINDER SEALS (CON'T)



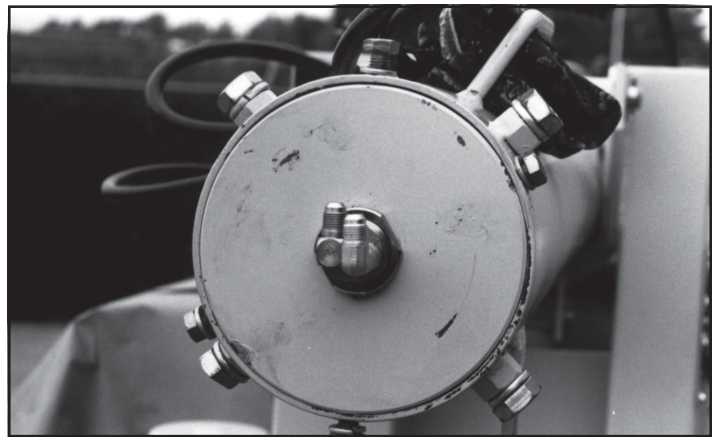
13. When the defective seals have been replaced, reverse the removal procedure to reinstall the cylinder. **NOTE:** Before sliding the piston base fully into the casing, you will need to align the pin at the top of the tower. (You may need some assistance in doing this).



14. The tower base can now be fully inserted back into the unit.



15. The locking nut can be tightened by holding the two plugs, inserted into the cylinder earlier, with a screwdriver.



16. Before the base bolts and guard ring are reinstalled, be certain that the arrows, stamped on the cylinder, are pointing towards the right as you look at the base of the cylinder. Reinstall fittings, hoses and guard ring.

The seal replacement is now

# TROUBLESHOOTING GUIDE

## SERIES 7000 HYDRAULIC LIGHT TOWER

<u>SYMPTOM</u>	<u>CAUSES</u>	<u>CORRECTIVE ACTION</u>
Tower fails to stand up	Circuit breaker at control box switched off	Switch on breaker
	Pump inlet valve closed	Open inlet valve
	Tower rear T-bar locked down	Release T-bar lock
	Pump pressure relief valve set too low or stuck open	Check for trash in valve seat; set at 1200 psi
Tower fails to telescope up	Circuit breaker at control box switched off	Switch on breaker
	Pump inlet valve closed	Open inlet valve
	Telescope cylinder bleed valve open	Close bleed valve
	Telescope relief valve set too low or stuck open	Check for trash in valve seat; set at 300 psi
	Defective hydraulic pump or motor	Check pump and motor; replace or repair if defective
Tower fails to telescope down (gravity pulls tower down when valve is set to drain fluid back to reservoir)	Excessive side force from wind or leaning tower	Level trailer so tower is plumb; if heavy wind, adjust jacks to lean into wind a few degrees
	Blocked hydraulic flow	Open bleed valve, it also drains back to the reservoir. Find blockage in normal flow path and correct.
	Jammed tower sections or cylinder sections	Clean area behind trailer for 30 feet. Lay down tower if following operating instructions for laying tower down in an open pit mine or excavation pit. Disassemble tower per tower repair instructions and find bind. If lower stop bar or square tube is forced pass upper stop bar, this will jam tower. Call factory for repair advice.

# TROUBLESHOOTING GUIDE

## SERIES 7000 HYDRAULIC LIGHT TOWER

<u>SYMPTOM</u>	<u>CAUSES</u>	<u>CORRECTIVE ACTION</u>
Tower fails to lay down (gravity pulls tower down when valve is set to drain fluid back to reservoir)	Excessive rear force from wind or leaning tower	Pull on handle at bottom of tower to get it started. If more force needed, adjust jacks to lean tower toward the rear.
to slowly lay down. Find blockage in repair. Top of hydraulic fluid in	Blocked hydraulic flow	Crack bleed plug at top of pivot cylinder and drain fluid ground. Tower will hydraulic lines and reservoir.
	Jammed lock pin	Pry lock pin loose; repair
Middle, 4" square, tower tube hangs then falls while lowering tower, and hammers hard against stop bars. tube,		Level trailer so tower is plumb. If heavy wind, adjust jacks to lean into wind a few degrees. Watch middle 4" square tube as tower telescopes down. The 4" tube should come down first. If it stays with the top 3" stop repeatedly trying to break it free.
	Jammed 4" section	Check 4" section guides and clearances. Look for dents in tubing, bent tubing. Check stop bar bolts. If external examination reveals no damage, tear tower down following tower disassembly instructions.
Tower raises in jerky motion or too slowly	Air in hydraulic cylinder	Check hydraulic fluid in reservoir. Fluid should be slightly above bottom of fill strainer when tower is in travel position.
of inlet valve and clean. Refill reservoir.	Blocked strainer	Drain fluid into container. Then remove strainer at bottom reservoir behind pump
fluid.	Jelled hydraulic fluid	If extremely cold, be sure to use low temperature hydraulic
	Defective hydraulic pump or motor	Check pump and motor. Replace or repair if defective.
Tower telescopes down slowly when locked in "TELESCOPE UP" position	Leaking valve seats	Check for leaking seats on rotary valve or pressure relief valve. Trash in pressure relief valve is prime suspect. Clean or replace as necessary.
psi.	Telescope relief valve pressure setting too low	Adjust pressure setting or replace if defective. Set at 1200
Tower lays down slowly when locked in "STAND UP" position	Leaking valve seats	Check for leaking seats on rotary valve or pump pressure relief valve. Trash in pressure relief valve is prime suspect. Clean or replace as necessary.

## TROUBLESHOOTING GUIDE

### SERIES 7000 HYDRAULIC LIGHT TOWER

<u>SYMPTOM</u>	<u>CAUSES</u>	<u>CORRECTIVE ACTION</u>
Hydraulic fluid leaking from bottom of cylinder	Leaking seals	Disassemble cylinder following disassembly instructions. Look for wear on O-rings, scored cylinder bore, or worn wear bands. Repair damage. A little leakage in the telescope cylinder can be tolerated for a while. A little leakage in the pivot cylinder can be accommodated if a stabilizing chain is fastened between the trailer tie-down loops and the chain hook at the bottom of the tower.

## LIGHT FIXTURE TROUBLESHOOTING

**DANGER!** Do not open fixtures while light circuit breaker is "ON". Allow lamp to cool before touching.

**\*\*TAKE EXTRA PRECAUTIONS WHEN TROUBLESHOOTING ELECTRICAL PROBLEMS\*\***

- A. Only use a voltmeter with two well-insulated pin probes rated for 600 volts.
- B. Treat all conductors as potentially hot.
- C. Proceed through circuits systematically, operating only one section at a time.
- D. Before disconnecting ballast, turn off circuit breaker and wait 30 seconds for capacitor to discharge.
- E. If all the lights are out and all the ballasts are receiving power, suspect burned out power cable.

<u>SYMPTOM</u>	<u>CAUSES</u>	<u>CORRECTIVE ACTION</u>
LAMP WILL NOT START	Check Ballast Status Light	<ul style="list-style-type: none"> <li>a. Input lights should be on. This confirms power is going to the ballast.</li> <li>b. Output lights should be on. This confirms power is coming from ballasts.</li> <li>c. Output lights should be normal brightness. If one or more of the output lights stay extra-bright, then the lamp is not striking.</li> <li>d. Use this knowledge to diagnose problem.</li> <li>e. If ballast status light is out but the floodlight lamp is working, suspect burned out ballast status lamp and replace</li> </ul>
	Lamp loose in socket	Inspect lamp base to see if there is arcing at center contact button. Tighten lamp snugly. Check socket for damage. Replace if defective.
	Floodlight Plugs not tight	Check plug and receptacle. Tighten if loose.
	Defective Ballast	Interchange ballast plugs in generator enclosure. If lamp starts, replace ballast. Check ballast wiring diagram.
	Check for swollen capacitors, charred wiring, core and coil, or	other signs of excessive heat.
	Low Voltage	Check line voltage at ballast input. Voltage should be within 10% of nameplate rating when operating at normal load. Increase supply voltage or remove external load.
	Improper ballast	Proper HID lamps will perform erratically or fail to start on an improper ballast. The ballast nameplate data should agree with the line voltage and lamp used. Improper ballast will cause lamp to fail.
	Improper lamp operating position	Operating position should agree with lamp etch. A BUHOR lamp can be operated base up vertical to and including the horizontal and ED can be operated base down and vertical to, approaching, but not including the horizontal. A lamp operated beyond the specified position may not start.
	Lamp has been operating; cool down time insufficient	HID lamps require 4 to 8 minutes cool-down time before restarting. Switch off breaker and allow lamp to cool.

## LIGHT FIXTURE TROUBLESHOOTING (cont'd)

<u>SYMPTOM</u>	<u>CAUSES</u>	<u>CORRECTIVE ACTION</u>
LAMP STARTS SLOWLY (ARC DOES NOT STRIKE WHEN SWITCH IS FIRST TURNED ON)	Defective Lamp	Lamp may glow for extended period of time. Replace after checking voltage and ballast.
CIRCUIT BREAKER TRIPS ON LAMP START-UP	Short circuit or ground	Checking wiring against diagram. Check for shorts or ground.
LAMP LIGHT OUTPUT LOW	Normal lamp depreciation	Replace lamp
	Dirty lamp or fixture	Clean lamp and fixture
	Defective ballast	Interchange ballast plugs in generator enclosure. If lamp returns to normal light output, replace ballast. Check for swollen capacitors, charred wiring, core and coil, or other signs of excessive heat.
	Wrong Voltage	Check voltage at ballast input. Voltage should be within 10% of nameplate rating. Check wiring connections for voltage loss. Check socket contact point.
	Improper ballast	Check ballast nameplate against lamp data.
LAMP COLORS DIFFERENT	Normal lamp depreciation	Lamp color and brightness decreases and colors change slightly as lamps age. Spot replacement with new lamps may cause noticeable differences in lamp colors. Group replacement minimizes color differences.
	Dirty fixture	Dirty fixtures will cause lamps to appear different in color. Clean fixture.
	Wrong lamp	Check data on lamps, which appear different in color. Replace with correct color lamp.
ARC TUBE DISCOLORED OR SWOLLEN	Over voltage from power supply	Check voltage at ballast. Check for current or voltage surges. Check for shorted capacitors and replace if defective.
	Improper ballast	Lamp operated on ballast designed for higher wattage lamp. Check ballast nameplate against lamp data

## LIGHT FIXTURE TROUBLESHOOTING (cont'd)

<u>SYMPTOM</u>	<u>CAUSES</u>	<u>CORRECTIVE ACTIONS</u>
SHORT LAMP LIFE	Lamp damaged	Check for outer bulb cracks. If air enters outer bulb, arc tube may continue to burn for 100 hours before failure. Check for bulb cracks where glass meets the base due to tightening lamp too firmly in socket. Look for broken arc tube or loose metal parts. Replace lamp.
	Improper ballast	Ballast nameplate data should agree with lamp line voltage and lamp use. If improper ballast is used, the lamp life will be shortened. A mismatch may also cause the ballast to fail.
LAMP FLICKERS AND GOES OUT INTERMITTET	Improper ballast	Improper ballasting can cause flickering or erratic operation. In the start-up period the lamp may ignite, start to warm-up and then extinguish (cycle).
	New lamp	Under certain conditions new lamps may "cycle". Usually after three (3) tries to start at 30 to 60 second intervals, lamps will stabilize and operate satisfactorily.
	Defective lamp	Replace lamp.

## TRACEABLE NUMBERED WIRING SYSTEM

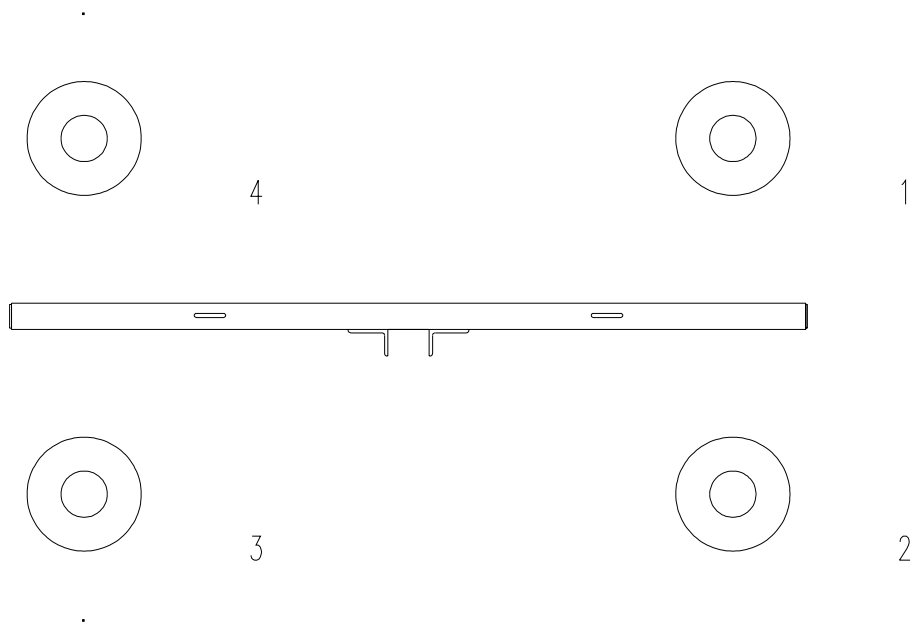
(Using plug in ballasts to troubleshoot)

When troubleshooting the preceeding problems, minimize down time by following the traceable numbered wiring system, always follow these steps:

STEP1: Insure all ballasts, which are numbered, are plugged into lead wires with corresponding numbers.

STEP 2: Looking at the lights from the glass side and following the diagram below, plug each fixture into the appropriately numbered plug at the top of the tower.

By adhering to the traceable numbered wiring system, troubleshooting, fixture aiming, and fixture control will follow a standard predictable pattern.





## Rear Bearing Inspection Requirements

Leroy-Somer 6 & 8 kw Generators

The rear bearing on all 6 & 8 kw generators should be inspected every two (2) years or 2000 hours, whichever occurs first. The bearing should be replaced at three (3) years or 3000 hours. Careful attention to this inspection procedure will prevent total generator failure resulting from bearing or bearing carrier deterioration.

There are two areas to examine during the inspection. First is the clearance between the bearing outer case and the generator bearing carrier (NDE Bracket). The bearing should fit snugly into the carrier so that it can be rotated only with some resistance. Side to side movement should be less than .010". If the bearing can be moved easily inside the carrier or if there is visible evidence of bearing carrier wear, the housing carrier should be replaced with End Kit #836835 (which includes the carrier, bearing and O-Ring). The second area of concern is the bearing itself. If roughness can be felt when rotating the outer race of the bearing, the bearing needs to be replaced (#836828). The other area to check is to see if the outer race will rock back and forth along the bearing axis. If there is movement in this axis, replace the bearing. If neither of these conditions exist, replace the bearing retaining O-Ring (#836830) and reassemble. Note: These bearings are sealed units and cannot be field serviced.

Follow the same procedure at three (3) years or 3000 hours. At this time replace both the bearing and O-Ring as well as inspecting the bearing carrier.

# WARRANTY PROCEDURE

The specific language of this warranty will determine TEREX LIGHT CONSTRUCTION'S obligation in connection with its product. The information presented below should be used as a general guide for implementation of policy. In the event of a component failure during the warranty period it should be repaired as soon as possible, preferably at an authorized TEREX LIGHT CONSTRUCTION service center. If component is manufactured by a company other than TEREX LIGHT CONSTRUCTION, such as Deutz, Honda, Isuzu, Leroy Somer, Lister Petter, Lombardini, Wisconsin, etc., the applicant should pursue repair and/or reimbursement through that manufacturer, and its dealer/distributor network.

To file a claim with TEREX LIGHT CONSTRUCTION, an APPLICATION FOR WARRANTY ADJUSTMENT (AWA) form must be completed in its entirety. Return the completed form within fourteen days of the repair to

ATTENTION: WARRANTY  
TEREX LIGHT CONSTRUCTION  
590 Huey Road  
Rock Hill Industrial Park  
Rock Hill, SC 29730

TEREX LIGHT CONSTRUCTION will review the AWA form. Should we desire to inspect the defective parts, we will issue you a return authorization for the defective parts. After inspecting the defective part(s), and it is determined that warranty is due, we will then, at the discretion of TEREX LIGHT CONSTRUCTION, credit the applicants account or send replacement parts.

TEREX LIGHT CONSTRUCTION warranty reimbursements:

- 1 \$30.00 for each hour's labor we allow toward a repair.
- 2 Distributors cost of parts not more than the price currently available from TEREX LIGHT CONSTRUCTION.
- 3 One way surface freight charges on parts returned to TEREX LIGHT CONSTRUCTION.

Many repairs are assigned a predetermined labor schedule which is an average time in which a skilled technician should be able to make a repair. TEREX LIGHT CONSTRUCTION will reimburse not to exceed the predetermined number of hours for a particular repair.

TEREX LIGHT CONSTRUCTION does not reimburse for:

- 1 Travel, travel time, nor travel labor.
- 2 Mileage.
- 3 Excessive diagnostic time.
- 4 Repairs of defects, malfunctions, or failures resulting from accidents, abuse, misuse, modifications, alterations, improper servicing or lack of performance of required maintenance service.
- 5 Repairs where defective parts were not shipped back when requested by TEREX LIGHT CONSTRUCTION.
- 6 Regular maintenance such as parts or labor for oil changes, filter changes or filters.
- 7 Repairs where defective parts were not received by TEREX LIGHT CONSTRUCTION after TEREX LIGHT CONSTRUCTION issued a return authorization.

## TEREX LIGHT CONSTRUCTION

P.O. BOX 3147  
ROCK HILL, S.C. 29730

### MANUFACTURER'S LIMITED WARRANTY

TEREX LIGHT CONSTRUCTION, hereafter referred to as TLC, warrants to the original purchaser that goods manufactured by it will be free from defects in workmanship and material for a period of two years after invoice from TLC, provided such goods are installed, operated and maintained in accordance with TLC'S written instructions. Such items to include, trailer frame and components, Lombardini engine, flashing arrow mode controller\*, engine control panel, sign board, jack stands and engine enclosure.

TLC makes warranty with respect to components and accessories furnished to TLC by third parties only to the extent of the original manufacturer's warranty to TLC. Third party components and accessories are parts such as, lamps, fuel pumps, alternators, belts, winches, tires, and electrical components. TLC shall not warrant normal maintenance parts such as filters. TLC makes no other warranty or merchantability or fitness for any purpose.

Warranty for repair or replacement parts after warranty period shall extend for 90 days after invoice date.

Manufacturer's liability and purchaser's sole exclusive remedy for a failure of goods to perform as warranted for any and all other claims arising out of the purchase and use of the goods, including negligence on the part of TLC, shall be limited to the repair or replacement of goods returned, transportation prepaid, to TLC. TLC shall in no event be liable for incidental or consequential damages.

No employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of TLC, at its home office.

\* Providing repairs are made by TLC Authorized Service Center.